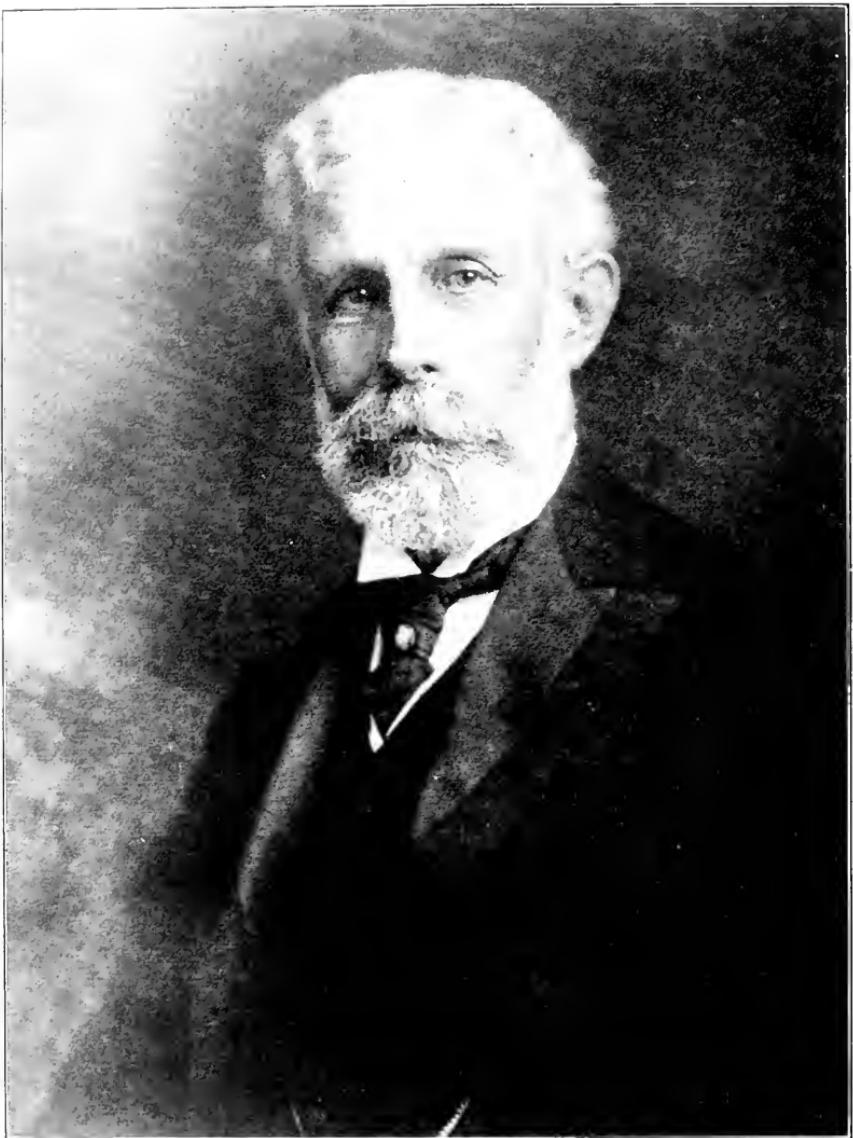


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BULLETIN
OF THE
National Association
OF
WOOL MANUFACTURERS,

1916.

FOUNDED NOV. 30, 1864.

EDITED BY WINTHROP L. MARVIN, *Secretary.*



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CONTENTS.

VOLUME XLVI.

JANUARY.

	<i>Page</i>
I. ANNUAL WOOL REVIEW FOR 1915. By William J.	
Battison	1
Review of the Year	1
The Number of Sheep and Fleecees	4
The Wool Product of 1915	6
Value of the Clip	8
Fleece, Pulled and Seoured Wool, 1891-1915	9
Available Supplies, 1910-1915	11
Wool Produced, Imported, Exported and Retained for Consumption, 1891-1915	12
Mohair Production in the United States, 1900-1915	14
Stock of Wool in the Boston Market, January 1, 1913- 1915	14
Slaughter and Movement of Sheep	15
Course of Prices (with chart)	16
Comparative Prices of Domestic Wool in Boston, 1901- 1915	17
Boston Receipts and Shipments of Wool	18
Statistical Tables, Imports of Wool and Wool Manufac- tures	21
Imports of Wool and Manufactures of Wool Entered for Consumption, Fiscal Year 1915	31
The English Market	33
London Sales, 1915	34
Liverpool East India Wool Sales, 1915	40
South American Wool Production, River Plate Wools . .	45
Australian Wool and Sheep Statistics, "Dalgety's Review" quoted	49
South African Wools	60
Number of Sheep in the World	61
Wool Production of the World	65

	Page
II. THE DYESTUFF PROBLEM STILL ACUTE. No Relief from Europe in Sight. A Logwood Embargo Imposed and Lifted in Jamaica. By Winthrop L. Marvin	67
The Hill Dyestuff Bill.	69
The Jamaica Logwood Embargo	70
Correspondence with Hon. Robert Lansing, Secretary of State.	71
The Hearing on the Hill Bill	74
III. ACTIVE AND IDLE MACHINERY, DECEMBER, 1915	78
IV. OBITUARY:	
Theophilus Parsons	81
V. EDITORIAL AND INDUSTRIAL MISCELLANY	82
Dyestuff's and Self-Reliance. The Hill Bill Points the Right Way Out in Washington. By Winthrop L. Marvin	82
Labeling Bills in Congress; the Proposition of Chairman Adamson	87
American Cloths for American Armies	88
Wool Imports under the Alliance	92
VI. QUARTERLY REPORT OF THE BOSTON WOOL MARKET, OCTOBER, NOVEMBER, AND DECEMBER, 1915	95
VII. IMPORTS OF WOOL AND MANUFACTURES OF WOOL ENTERED FOR CONSUMPTION, FISCAL YEARS 1914 AND 1915	98

APRIL.

I. FIFTY-FIRST ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF WOOL MANUFACTURERS	113
Officers for 1916	113
Report of the Secretary, Winthrop L. Marvin	115
II. ANALYSIS OF WARP FAULTS. (Illustrated.) By Howard Priestman	121
III. SLOW PROGRESS IN DYESTUFFS. Development of a Native Industry Balked by the Powers in Washington. By Winthrop L. Marvin	127
Discussion of the Hill Bill	138
IV. ACTIVE AND IDLE MACHINERY. Comparative Returns, March, 1915 and 1916	146

	Page
V. PRICES OF YARNS AND CLOTHS. Tabular Statement	148
VI. OBITUARY:	
John Hopewell (with portrait)	150
Charles J. H. Woodbury (with portrait)	153
James Doak, Jr.	154
Winfield S. Schuster	155
George A. Shoemaker	155
VII. EDITORIAL AND INDUSTRIAL MISCELLANY	156
Industrial Mobilization. The Wool Manufacture and Its Part in the National Defence	156
Remarks of President John P. Wood	157
More Sheep and More Wool. A Nation-Wide Move- ment Launched by the Philadelphia Wool and Textile Association	160
Letter of William M. Wood	161
A Reminiscence of 1912. How Foreign "Gratitude" Helped to Make Possible the Present Tariff for Reve- nue Only	162
How the Present Tariff on Lemons Was Effected .	162
The Textile Alliance and Its Work. Rates Reduced and a Substantial Dividend in Sight	167
The Yorkshire Wool Manufacture in 1915. The "York- shire Observer" quoted	168
Changed Methods of British Selling	177
Forward Dating, Bonuses, Net Measurement, Shorter Credits	178
Sir Swire Smith, M.P.	179
A New Textile Journal	179
VIII. BOOK REVIEW:	
A Handbook of Weaves. By G. H. Oelsner	180
IX. STATEMENT OF OWNERSHIP, MANAGEMENT, ETC.	181
X. DECISIONS OF THE TREASURY DEPARTMENT ON THE WOOLEN TARIFF	182
XI. COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL AND MANUFACTURES OF WOOL FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1914 AND 1915	199
XII. QUARTERLY REPORT OF THE BOSTON WOOL MARKET FOR JANUARY, FEBRUARY, AND MARCH, 1916	203

JULY.

	Page
I. THE DYESTUFF SITUATION. A Lame Protectionist Bill Introduced in Place of the Hill Bill. By Winthrop L. Marvin	207
Text of the Bill	209
Report of the Democratic Majority of the Committee on Ways and Means	211
Comments of President Herty of the American Chemi- cal Society	213
II. THE AMERICAN WOOL INDUSTRY. A Study of Some of the Commercial Problems of the Woolen and Worsted Branches of the American Wool Manufacture. By Prof. Paul T. Cherington	215
III. ACTIVE AND IDLE MACHINERY, JUNE 1, 1916	226
IV. OBITUARY	228
Jeremiah Williams (with portrait)	228
Frank E. Simpson	229
James Lister	230
V. EDITORIAL AND INDUSTRIAL MISCELLANY	231
A Case of Very Sudden Conversion. Tariff for Reven- ue Only Conspicuously Missing from the Democratic Party Platform this Year	231
Manufacturers' Purchases of Wool in 1915. United States Department of Agriculture's Report	233
American After the War Prospects	235
Dyes and the Manufacturer. Attitude of the Textile Mills Toward American and European Colors. By Frederic Dannerth	237
Dr. Hesse on the Dyestuff Art. The President of the American Chemical Society as Historian and Prophet. An Address Before the Dress Fabric Buyers' Associa- tion, New York	240
The New British Method. Selling Plans of Woolen Mills, Effective August 1, 1916	249
England Forbids the Sale of Native Wools	251
Germany After the War. An Impressive Note of Warn- ing from a British Scholar and Economist. Prof. Roberts Beaumont in the "Textile Recorder" quoted, Shipment of Wool and Woolen Goods from India	251
The 1914 United States Census	256
The Manufacture of Carpets and Rugs	257
The Manufacture of Wool Shoddy	262

	Page
Top Valuing and Blending. <i>The Wool Record</i> quoted, The Textile Industries of France in 1916. Extracts from Report of Consul A. M. Thackara	265 271
American Views of German Trade. Extracts from Reports of American Consuls	275
VI. DECISIONS OF THE TREASURY DEPARTMENT ON THE WOOLEN TARIFF	279
VII. QUARTERLY REPORT OF THE BOSTON WOOL MARKET, APRIL, MAY, AND JUNE, 1916	294
OCTOBER.	
I. THE PHILADELPHIA TEXTILE SCHOOL. America's Pioneer School for Technical Instruction in Textile Production. By Dr. E. W. France (with frontispiece)	299
President Search, Pioneer	301
The Dawn of Textile Education	303
Skill the Secret of Victory	308
A Difficult and Exacting Trade	309
A Costly Equipment Needed	311
The Duty and Responsibility of the Manufacturers . .	313
II. A "HISTORY OF MANUFACTURES." Dr. Victor S. Clark's Portrayal of the Period from 1607-1860	316
How Britain Repressed the Colonies	318
Stimulus of the Revolution	320
After the Revolution	323
The Tariffs of 1812 and 1816	327
Transportation and Manufactures	329
The Early Export Trade	331
After the War of 1812	333
Early Wage Scales	334
Conclusions of the Author	337
III. THE NEW DYESTUFF LAW. A Blunder to the End and Another Failure to Meet the Situation. By Winthrop L. Marvin	339
Text of the Dyestuff Schedule	339
Resolutions of the Special Committee of the American Chemical Society	343
IV. ACTIVE AND IDLE MACHINERY. Comparative Returns, September, 1915 and 1916	348

	Page
V. THE UNITED STATES CENSUS FOR 1915	350
Manufactures in the United States	352
Comparative Summary for All Manufactures, 1909 and 1914	355
Wool Manufactures	356
Woolen and Worsted Goods	357
Felt Goods, Wool-Felt Hats, and Fur-Felt Hats . .	363
Wool and Fur Hats	367
Carpets and Rugs Other Than Rag	371
Wool Shoddy	372
VI. OBITUARY:	
Martin A. Marks	373
Day Chadwick	374
VII. EDITORIAL AND INDUSTRIAL MISCELLANY	375
A Very Solid Opposition. How the American Wool Manufacture Has Felt about the National Elections, and Why	375
What of the Embargo?	377
What the Schools are Doing	379
Too Much "Overgovernment"	383
An American Linen Industry. Review of the Report by W. A. Graham Clark	384
Re-Revised British Terms. The New Selling Method as Finally Established	388
VIII. STATEMENT OF OWNERSHIP, MANAGEMENT, ETC.	391
IX. DECISIONS OF THE TREASURY DEPARTMENT ON THE WOOLEN TARIFF	392
X. COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL AND MANUFACTURES OF WOOL FOR THE TWELVE MONTHS ENDING JUNE 30, 1915 AND 1916, . .	413
XI. QUARTERLY REPORT OF THE BOSTON WOOL MARKET FOR JULY, AUGUST, AND SEPTEMBER, 1916	417

BULLETIN

OF THE

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DEVOTED TO THE INTERESTS OF THE NATIONAL WOOL INDUSTRY.

VOL. XLVI.]

BOSTON, JANUARY, 1916.

[No. I.

ANNUAL WOOL REVIEW FOR 1915

WITH ESTIMATE OF DOMESTIC WOOL PRODUCTION
AND OTHER STATISTICAL RECORDS.

IN the following pages we present for the twenty-seventh consecutive year our Annual Wool Review. It covers a year made memorable throughout by the great war in Europe and the resulting complications, which have been manifest in all quarters of the world. Unexpectedly the great war has nullified the natural consequences of the free wool and revenue-only tariff legislation in America. This country has been given almost the equivalent of a protective tariff upon wool and goods, and both wool growers and manufacturers in consequence have closed the year in a far more contented frame of mind than had seemed possible.

If imports of foreign wool manufactures had continued to increase as they actually increased in the first seven months of 1914 before the war began, the year 1915 would have been a black twelvemonth indeed for the wool-growing States and for the Eastern manufacturing communities. There has never been any important, profitable export of American-grown wools; the mills of this country are their one practicable market. An inundation of foreign fabrics made exclusively of foreign wools would have carried American wool down to unremunerative figures, and would have led to a partial abandonment of the industry, exactly as happened under the previous "tariff reform" experiment of

1894-1897. But the death grapple of the mighty nations of Europe suddenly and completely offset the blundering of American law-makers, and the clothing of the vast new armies put an enormous premium upon wool throughout the world, at the same time that, because of the same cause, imports of wool manufactures into the United States fell almost to normal protective tariff proportions. Thus it has come about from the operation of tremendous external influences that the prices of raw wool generally have advanced in the United States under a free wool policy, and the wool growers of this country generally have had one of the most profitable years which they have ever known.

Wool values had been firm ever since the war opened in early August, 1914. These high costs of the raw material compelled advances in the prices of wool manufactures. In the spring of 1915 the customers of the woolen mills of the United States began to realize the inevitable trend of events, and busily sought to cover their requirements. At first the improved trade was felt for the most part in carded woolen fabrics, the branch of the industry which had been particularly benefited by the military orders of foreign governments. These foreign orders, by the way, continued throughout the year, and were responsible for the active operation of a considerable fraction of the machinery of American mills. But toward the autumn there set in a lively demand for worsted fabrics, and this was reflected in the relatively small proportion of worsted machinery reported idle in the quarterly canvass of the National Association of Wool Manufacturers for December 1, 1915. The month of December witnessed a further improvement in the wool goods situation, and naturally a corresponding further advance in the values of raw wools, imported and domestic. The total wool consumption of the year was undoubtedly one of the largest in the history of American wool manufacturing, and wool growers and manufacturers alike look forward confidently to a buoyant year in 1916.

Imports of wool manufactures for the seven months ending with July, 1914, were \$29,239,274 — reflecting the operation of the reduced duties in the period before the war began. For the corresponding seven months of 1915, imports of wool manufactures were valued at \$11,240,251, as compared with \$8,870,101 for the corresponding seven months of 1913, under the Schedule K of the Aldrich-Payne legislation. That is to say, the imports of wool manufactures, which increased nearly threefold under

the new tariff for revenue only before the war, have now shrunk to only a little more than their normal proportions. To all intents and purposes, therefore, temporarily at least, the American wool manufacture is once more a protected industry, and the wool growers of this country are benefiting by this circumstance. Moreover, the immense amounts of war orders from abroad, not only for munitions, for iron and steel and other metals and for artillery and cavalry harness and equipments, but for grain, provisions and foodstuffs of all kinds, have finally stimulated all the great fundamental productive industries of the United States. Wage-earners who were idle and suffering under the first few months of normal operation of tariff for revenue only are now employed again, thanks to the imperative needs of battling Europe. Men and women by the millions who deferred the buying of woolen clothing and wore their old suits, dresses, coats, and cloaks because of precarious employment in early 1914, are encouraged by this change in business conditions to replenish their wardrobes. At the same time, the extraordinary demand for Australasian, South African, and South American wools for military purposes on the European Continent has so enhanced the prices of these wools that, though imports into the United States have been very great, yet American wools have brought favorable prices in competition. American mills are actively working to make up for the vacuum in the country's woolen goods supply which resulted from the hesitation and idleness of 1913-1914. Clothing manufacturers and merchants are once more courageously stocking up.

These are the causes that have produced the present real, if temporary, prosperity among the sheep growers of the United States. It is a rash man who would venture to forecast how long these favorable conditions will continue. That they are dependent upon the war and its duration is manifest. It is probable that the war has occasioned a serious depletion in the sheep and wool of certain areas of the world. Russia, which has produced 300,000,000 pounds of wool annually, is undoubtedly a sufferer by the marching and fighting of the hostile armies, while much of the available wools of Asia Minor and adjacent regions is likely to be commandeered for the exclusive use of Germany and Austria. It is conceivable that there may be a world-shortage of wool even after the war has ceased.

But what most interests the wool growers of America is the condition of American manufacturing after the war. If the

existing tariff has not been changed and if American mills are overborne by excessive importations of cloths, dress goods, etc., made of foreign wools, the American wool growers will lose a large part of their one great and profitable market — and the day has not yet come and is not likely to come in the near future when American wool growers can make any considerable amount of money in competition with Australasia, South Africa, and South America for the patronage of the wool manufacturers of Europe, who do not know American fibers and are not accustomed to their use. Just as the American wool manufacture is built up substantially on the basis of American-grown wools, so the European wool manufacture is primarily adapted to the wools of other continents. Far more important to the wool growers of this country is the question of an adequate protective duty on wool manufactures than the question of a duty on the raw wool itself.

Under the supervision of the Textile Alliance, Inc., imports of British and Colonial wools have continued without event in accordance with the terms of the agreement entered into in the early part of 1915. For several months at the end of the year the embargo was lifted from crossbred wools of Colonial production, and large purchases of these wools were made on American account, because they appeared to be substantially cheaper than wools of the same grades from South America. But in New Zealand the embargo has again been imposed, presumably because of military considerations and the need of these particular wools for the uniforming of the one million or more men to be called to the colors in the United Kingdom. No friction has accompanied the recent working of the Alliance agreement. The trade has become accustomed to it, and the Allianee has been instrumental in securing permission for modifications that permit the export of yarns and tops to the British dominions and also to the Allies of the British government. But sanction could not be gained for the export to South America and other neutral countries of yarns made even of domestic or South American wools. At this writing the activity in American wool manufacturing continues unabated, and the prospect is bright that 1916 will prove a year of very large production.

THE NUMBER OF SHEEP.

For the second year the estimate of the wool product of the United States, presented herewith, has been prepared by the

Federal Department of Agriculture, which has pursued the plan adopted last year of basing its calculations on the number of fleeces taken from the sheep instead of the number of sheep sheared.

As the average weight of fleeces in those States in which double shearing is still practised, notably California and Texas, is considerably reduced while the number of fleeces reported is increased from the figures of our own previous reports, the total quantity of wool produced is probably not greatly affected. It is to be regretted, however, that this change vitiates to some extent the comparison with former years of the yearly number of sheep of shearing age, for if the fleeces reported be used to represent the number of sheep the total will of necessity be somewhat larger than the true number.

Assuming, however, that the number of sheep sheared and the number of fleeces are the same, the figures show a very small increase of 14,000 head, the present number being 36,598,000. At the same time, however, other Department reports, giving the livestock of the country as of January 1 of each year, show an increase in the number of sheep and lambs of 247,000, from 49,719,000 on January 1, 1914, to 49,956,000 on January 1, 1915. In both cases, however, allowance has to be made for winter losses by disease and exposure, and the slaughters for food during the interval before shearing.

The Department made no estimate of the shrinkage of wool from the grease to the scoured state and therefore we make our own estimate of the shrinkage, which with a statement of the scoured equivalent of the wool product in each State and in the country, and also the value per scoured pound on October 1 in Boston and the total value of the year's clip is included in the table of production.

The demand for crossbred wools for army purposes has increased the already strong tendency to breed to mutton sheep not only in this country but also in South America and Australia. In 1909 48.25 per cent of all the Australian wool sold in London was crossbred. In 1914 the percentage had increased to 51.67.

In this country the condition is well illustrated by the following quotation from a letter from one of our leading wool merchants concerning the clip of this year. He says: "We think that the clip last year was on the average lighter shrinkage than the year before" and that "the tendency to cross breed, which

began immediately it was known that Mr. Wilson was elected President, so as to produce as much mutton as possible, has resulted in lowering the grade of the American clip, and therefore has reduced the average shrinkage."

THE WOOL PRODUCT OF 1915.

From the statements set forth in the Table of Production it appears that the total product of sheared wool in this country for the year 1915 was 248,777,000 pounds, and that the total product of pulled wool was 40,000,000 pounds, making an aggregate production of raw wool of 288,777,000 pounds. The average shrinkage of sheared wool in the year 1915 was 58.5 per cent, making the scoured equivalent of this sheared wool 103,187,960 pounds. The average shrinkage of pulled wool, from the brushed to the scoured state, was 28 per cent, making the scoured equivalent of this pulled wool 28,000,000 pounds — so that of the aggregate wool product, including both sheared wool and pulled wool, of 288,777,000 pounds, the scoured equivalent was 131,987,960 pounds. The total value of the sheared wool for the year 1915 was \$67,771,954, and the total value of the pulled wool was \$17,429,000, making the total value of our wool product \$85,200,954.

COMPARED WITH 1914.

The total product of sheared wool in this country for the preceding year 1914 was 247,192,000 pounds, and the total product of pulled wool was 43,000,000 pounds, making an aggregate production of raw wool for 1914 of 290,192,000 pounds. The average shrinkage of sheared wool in the year 1914 was 59.2 per cent, making the scoured equivalent of this sheared wool 100,880,680 pounds. The average shrinkage of pulled wool, from the brushed to the scoured state, was 28 per cent, making the scoured equivalent of this pulled wool 30,960,000 pounds — so that of the aggregate wool product in 1914, including both sheared wool and pulled wool, of 290,192,000 pounds, the scoured equivalent was 131,840,680 pounds. The total value of the sheared wool for the year 1914 was \$52,218,237, and the total value of the pulled wool was \$14,513,000, making the total value of our wool product \$66,731,237. Thus the aggregate wool product of the United States on the raw wool basis is 1,415,000 pounds less in 1915 than in 1914, but on the scoured basis is 147,280 pounds greater. These figures are the cause of surprise

in the wool trade, where a considerable reduction in the quantity produced was anticipated.

The increase in value of the wool product in 1915 over 1914, amounting to \$18,469,717, is due chiefly to the extraordinary demand created by the war in Europe.

Following is a brief tabular statement of the wool product figures for the two years 1914 and 1915:

	1914.	1915.
Sheared wool	247,192,000	248,777,000
Pulled wool	43,000,000	40,000,000
Total raw wool	290,192,000	288,777,000
Scoured equivalent	131,840,680	131,987,960
Value of sheared wool	\$52,218,237	\$67,771,954
Value of pulled wool	\$14,513,000	\$17,429,000
Total value of wool product.....	\$66,731,237	\$85,200,954

Pulled Wool.

The United States Department of Agriculture estimates the production of pulled wool for this year at 40,000,000 pounds, which is 3,000,000 pounds less than the estimate for last year and corresponds with other statements giving the slaughter of sheep. The shrinkage from the brushed to the scoured state, averaging 28 per cent, makes the scoured equivalent 28,800,000 pounds. This quantity may be divided into qualities as follows:

Fine and fine medium	16,300,000 pounds.
Medium and coarse.....	12,500,000 ..

These quantities subdivided into the current market grades, with average values based on the price October 1, give the following results:

	Pounds Scoured.	Value per pound, cents.	Total value.
Extra and fine A	4,200,000	67	\$2,814,000
A super	7,300,000	62	4,526,000
B super	6,000,000	58	3,480,000
C and low super.....	1,300,000	48	624,000
Fine combing.....	4,500,000	65	2,925,000
Medium combing.....	3,000,000	60	1,800,000
Low combing	2,000,000	53	1,060,000
Shearlings	500,000	40	200,000
	28,800,000	Average 60.52	\$17,429,000

VALUE OF THE CLIP.

The gross value of the wool product, both fleece and pulled, for the year, based on its scoured value in Boston in the early days of October, is as follows:

Fleece wool	\$67,771,954
Pulled wool.....	17,429,000
Total	\$85,200,954

This is an increase of \$18,469,717 over the corresponding value for last year.

In the first group of States, as arranged in the table, the wools were worth \$23,085,483, or 34 per cent of the total value of the fleece wool. The second group produced wool to the value of \$2,883,906, or over 4 per cent of the total, while in the third group the value is \$41,802,565, or 62 per cent of the whole.

WEIGHT AND SHRINKAGE.

For a series of years the average weight and shrinkage for the whole country has been as follows:

	Average Weight.	Average Shrinkage.
	Pounds.	Per cent.
1901.....	6.33	60.6
1902.....	6.50	60.0
1903.....	6.25	60.8
1904.....	6.50	61.6
1905.....	6.56	61.3
1906.....	6.66	61.8
1907.....	6.60	60.6
1908.....	6.70	60.5
1909.....	6.80	60.9
1910.....	6.70	60.0
1911.....	6.98	60.4
1912.....	6.82	59.3
1913.....	6.95	60.0
1914.....	6.76	59.2
1915.....	6.80	58.5

The wool came to market this year in good condition, the average yield of clean wool per pound being practically the same as in the other years shown in the above table, and equaling a little more than 40 pounds to the hundred.

The next table presents a statement of the production of wool for a period of twenty-five years with the annual increase or decrease, and the one following it gives the production for the same period reduced to the scoured equivalent, as shown in our yearly estimates.

FLEECE AND PULLED WOOL, WASHED AND IN THE GREASE.

		Product.	Decrease.	Increase.
1891.....	<i>pounds</i>	307,401,507	2,073,349	.....
1892.....	"	333,018,405	.....	25,606,898
1893.....	"	348,538,138	.....	15,519,733
1894.....	"	325,210,712	23,327,426	.....
1895.....	"	294,296,726	30,913,986	.....
1896.....	"	272,474,708	21,822,018	.....
1897.....	"	259,153,251	13,321,457	.....
1898.....	"	266,720,684	.....	7,567,433
1899.....	"	272,191,330	.....	5,470,646
1900.....	"	288,636,621	.....	16,445,291
1901.....	"	302,502,382	.....	13,865,707
1902.....	"	316,341,032	.....	13,838,650
1903.....	"	287,450,000	28,891,032	.....
1904.....	"	291,783,032	.....	4,333,032
1905.....	"	295,488,438	.....	3,705,406
1906.....	"	298,715,130	.....	3,426,692
1907.....	"	298,294,750	.....	948,176
1908.....	"	311,138,321	.....	12,833,571
1909.....	"	328,110,749	.....	16,972,428
1910.....	"	321,362,750	6,747,999	.....
1911.....	"	318,547,900	2,814,800	.....
1912.....	"	304,043,400	14,504,500	.....
1913.....	"	296,175,300	7,868,100	.....
1914.....	"	290,192,000	5,983,300	.....
1915.....	"	288,777,000	1,415,000	.....

SCOURED WOOL, FLEECE AND PULLED.

	Product.	Decrease.	Increase.
1891..... <i>pounds</i>	139,326,703	301,517	.....
1892....."	145,300,318	.....	5,973,615
1893....."	151,103,776	.....	5,803,458
1894....."	140,292,268	10,811,508	.....
1895....."	125,718,690	14,573,578	.....
1896....."	115,284,579	10,434,111	.....
1897....."	111,365,987	3,918,592	.....
1898....."	111,661,581	.....	295,594
1899....."	113,958,468	.....	2,296,887
1900....."	118,223,120	.....	4,264,652
1901....."	126,814,690	.....	8,591,570
1902....."	137,912,085	.....	11,097,395
1903....."	124,366,405	13,545,680	.....
1904....."	123,935,147	431,258	.....
1905....."	126,527,121	.....	2,591,974
1906....."	129,410,942	.....	2,882,821
1907....."	130,359,118	.....	948,176
1908....."	135,360,648	.....	5,001,530
1909....."	142,223,785	.....	6,863,137
1910....."	141,805,813	417,972	.....
1911....."	139,896,195	1,809,618	.....
1912....."	136,866,652	3,029,543	.....
1913....."	132,022,080	4,844,572	.....
1914....."	131,840,680	.....	613,600
1915....."	131,987,960	.....	147,280

VALUE OF THE WOOL PRODUCT FOR TEN YEARS.

The total value of the wool product for the year, estimated on the scoured price in Boston, October 1, was \$85,200,954 for 131,987,960 pounds of wool. Last year 131,840,680 pounds were valued at \$66,731,237. The average value per pound of the fleece wool is 65.7 cents and 60.5 cents for pulled wool in clean condition.

	Fleece and pulled. Scoured.	Total value.	Value per pound.	
			Fleece.	Pulled.
			Pounds.	Cents.
1906	129,410,942	\$79,721,383	63.8	54.3
1907	130,359,118	78,263,165	62.3	50.2
1908	135,360,648	61,707,516	46.6	41.6
1909	142,223,785	88,829,746	63.6	58.0
1910	141,805,813	72,489,838	51	51.75
1911	139,896,195	66,571,337	47.7	47.5
1912	136,866,652	76,020,229	55.2	56.0
1913	132,022,080	57,582,954	43.6	43.4
1914	131,840,680	66,731,237	50.6	46.9
1915	131,987,960	85,200,954	65.7	60.5

AVAILABLE SUPPLIES, 1910-1915.

An estimate of the available wool supplies for the year 1915, that is, the clip of the year, imports to October 1 and stock held by dealers January 1, but not including supplies in manufacturers' hands, follows. The corresponding figures for a series of years are included in the table, which is based on the Boston Commercial Bulletin's estimate of supplies in dealers' hands, the Department of Commerce figures of imports, and the preceding tables.

AVAILABLE SUPPLIES.

	1910.	1911.	1912.	1913.	1914.	1915.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Wool clip, fleece and pulled . . .	321,362,750	318,547,900	304,043,400	296,175,300	290,192,000	288,777,000
Domestic wool on hand January 1 . . .	82,841,457	142,575,200	106,128,900	66,457,818	64,483,155	54,347,785
Foreign wool on hand January 1 . . .	14,481,000	19,946,000	12,484,815	17,002,537	28,550,094	5,357,973
In bond January 1 . . .	76,503,604	52,990,238	42,004,855	55,666,626	*2,257,505	*1,029,457
Foreign wool imported, January 1 to July 1 . . .	139,922,432	97,434,095	134,913,297	92,088,202	187,933,386	221,454,523
Total . . .	635,111,243	631,493,433	600,575,287	527,390,483	573,416,122	560,966,738
Imports of wool, July 1 to Oct. 1,	17,807,601	26,527,408	59,011,294	22,736,792	51,157,044	73,886,311
Total to Oct. 1	652,918,844	658,020,841	659,586,561	550,127,275	624,573,166	634,853,049

* Mohair, alpaca, etc.

In the month of October, 1915, there were imports of 32,565,637 pounds of wool as compared with 11,956,730 pounds in October, 1914.

The gross imports for the four months ending October 31, 1915, were as follows:

1915.	Class I.	Class II.	Mohair, etc.	Class III.	Total.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
July	24,558,252	1,811,914	1,263,242	4,137,826	31,771,234
August	10,842,384	2,045,405	907,144	8,155,202	21,950,135
September	7,472,877	572,886	1,580,310	10,538,869	20,164,942
October	19,289,414	544,419	2,012,347	10,719,457	32,565,637
Total	62,162,927	4,974,624	5,763,043	33,551,354	106,451,948

For the corresponding four months of the preceding year the imports were :

Class I.	Class II.*	Class III.	Total.
<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
31,517,805	12,019,833	19,576,136	63,113,774

* Including mohair, alpaca, etc.

THE ANNUAL WOOL SUPPLY.

The quantity of wool retained for consumption in the United States from 1890 to date is shown in the following table. As the wool clip of the year reaches the market during the governmental fiscal year, the clip of the calendar year is added to the imports of the fiscal year beginning July 1, so that the total supply for a series of years is accurately indicated by this combination, however it may differ from the available supplies in any one year of the series.

WOOL PRODUCED, IMPORTED, EXPORTED, AND RETAINED FOR CONSUMPTION.

Fiscal Year.	Total Imports.	Exports, Domestic and Foreign.	NET IMPORTS.		Production.	Retained for Consumption.	FINE WOOL.	
			Classes I. and II.	Class III.			Retained for Consumption.	Per cent of Foreign.
1890-91..	129,303,648	2,930,045	36,783,501	89,882,024	309,474,856	435,848,459	345,966,435	10.63
1891-92..	148,670,652	3,210,019	53,350,167	92,312,922	307,101,507	452,562,140	360,249,218	14.81
1892-93..	172,433,838	4,310,495	46,189,082	122,026,119	333,018,405	501,141,748	379,115,629	12.18
1893-94..	55,152,585	6,497,654	7,167,380	42,007,798	348,538,138	397,193,069	355,185,271	2.02
1894-95..	206,981,890	6,622,190	98,388,318	103,402,507	325,210,712	524,722,428	419,319,921	23.46
1895-96..	230,911,473	12,972,217	126,966,355	97,918,882	294,296,726	512,235,982	414,317,100	30.64
1896-97..	350,852,026	8,700,598	235,282,735	112,141,437	272,474,708	614,626,136	502,485,908	46.84
1897-98..	132,795,302	2,625,971	47,480,033	82,810,437	259,153,251	389,322,582	306,512,145	15.50
1898-99..	76,736,206	14,095,335	3,349,870	60,947,423	266,720,684	329,361,558	268,387,135	1.25
1899-1900	155,918,455	7,912,557	44,680,424	105,525,783	272,191,330	420,197,228	314,671,445	14.20
1900-01..	103,583,506	3,790,067	32,865,844	67,127,159	288,636,621	388,430,059	321,502,465	10.10
1901-02..	166,576,966	3,227,941	69,315,286	93,842,199	302,502,382	465,851,407	371,694,390	18.65
1902-03..	177,137,796	3,511,914	54,747,533	119,397,268	316,341,032	489,966,914	370,569,646	14.63
1903-04..	173,742,834	3,182,803	55,999,545	114,880,236	287,450,000	458,010,031	345,129,795	16.22
1904-05..	249,135,746	2,561,648	134,407,321	112,292,726	291,783,032	583,357,130	426,066,402	31.54
1905-06..	201,688,665	5,642,859	98,336,137	97,902,153	295,488,438	491,534,247	393,632,094	24.99
1906-07..	203,847,515	3,446,748	91,726,655	108,888,982	298,715,130	499,115,927	390,226,945	23.50
1907-08..	125,980,524	5,626,463	57,846,442	62,690,077	298,294,750	418,648,811	346,141,192	16.71
1908-09..	266,409,304	3,523,975	164,867,536	99,046,169	311,138,321	574,023,650	476,005,877	34.60
1909-10..	263,928,232	4,055,473	139,846,192	120,074,087	328,110,749	587,983,508	467,909,421	29.90
1910-11..	137,647,641	8,205,699	45,414,054	84,027,888	321,362,750	450,804,692	366,776,804	12.38
1911-12..	193,400,713	1,719,870	85,531,845	106,148,998	318,547,900	510,228,743	404,078,845	21.12
1912-13..	195,293,255	4,423,161	80,883,313	109,986,781	304,043,400	494,913,494	384,926,713	21.00
1913-14..	247,648,869	1,141,874	144,839,106	101,667,879	296,175,300	542,682,285	441,014,406	32.84
1914-15..	308,083,429	7,259,934	236,631,346	64,192,249	290,192,000	591,015,495	526,823,246	44.91
1915-16..	.....	.....	.....	288,777,000	.....	.....	.....	.....

The proportion of foreign fine wools increased from 21 per cent in 1913 to 44.91 per cent in the present year, the largest percentage recorded except in the year 1896-7, immediately preceding the Dingley tariff, when it was 46.84 per cent. The total quantity of fine wools retained for consumption, both foreign and domestic, amounted to 526,823,246 pounds, an increase of 85,808,840 pounds over the preceding year.

The net imports of Class I and II wools amount to 236,631,146 pounds and are 91,792,106 pounds in excess of the imports of the preceding year. These imports are the largest recorded, exceeding even the record year 1896-7, when the net imports were 235,282,735 pounds, in anticipation of the re-imposition of the wool duties under the Dingley tariff. The net imports of Class III wools were 64,192,249 pounds, the smallest since 1907-8, and 40,000,000 less than the average of the preceding five years.

The following table shows the total and average annual supplies for five-year periods, beginning in 1888, the ten-year periods 1888-1897, 1893-1902, and 1903-1912, and the years 1913, 1914, and 1915:

WOOL SUPPLY, 1888-1915. — DOMESTIC PRODUCTION AND IMPORTS
LESS EXPORTS.

Fiscal years ending June 30.		
	All wools.	Fine wools.
	Pounds.	Pounds.
1888-1892. Five years, total.....	2,122,407,842	1,686,818,840
Annual average.....	424,481,568	337,363,768
1893-1897. Five years, total.....	2,549,920,592	2,070,423,829
Annual average.....	509,984,118	414,084,766
1888-1897. Ten years, total.....	4,672,328,434	3,757,242,669
Annual average.....	467,232,843	375,724,267
1898-1902. Five years, total.....	1,988,771,621	1,582,374,537
Annual average.....	397,755,324	316,474,907
1893-1902. Ten years, total.....	4,538,692,213	3,652,798,366
Annual average.....	453,869,221	365,279,837
1903-1907. Five years, total	2,476,984,249	1,925,618,882
Annual average, five years.....	495,396,850	385,123,776
1898-1907. Ten years, total.....	4,465,755,870	3,507,993,419
Annual average.....	446,575,587	350,799,342
1908-1912. Five years, total	2,541,688,925	2,060,912,139
Annual average.....	508,337,785	412,182,428
1903-1912. Ten years, total.....	5,018,673,174	3,986,531,021
Annual average, ten years.....	501,867,317	398,653,102
1913.....	494,913,494	384,926,713
1914.....	542,682,285	441,014,406
1915.....	591,015,495	526,823,246

MOHAIR.

No new official statistics of the production of mohair in this country are available. Under the encouragement of a 15 per cent duty the impression among those best informed is that there has been an increase in the production of this valuable fiber, especially in Texas. We have therefore increased our estimate of the mohair grown here to 6,000,000 pounds, with an average value of 30 cents per pound at Boston, making the total value of the mohair yield \$1,800,000 as against 4,500,000 pounds valued at \$1,080,000 last year.

Texas, Oregon, New Mexico, California, and Arizona are the principal sources of supply of domestic mohair.

MOHAIR PRODUCTION IN THE UNITED STATES.

U.S. Census Reports and Commercial Estimates.

Year.	Fleeces.	Weight of Mohair.	Value.
<i>Pounds.</i>			
1900	454,932	961,328	\$267,864
1910	1,682,912	3,778,706	901,597
1912 .....	.....	4,000,000*	1,240,000†
1913 .....	.....	4,500,000*	1,215,000†
1914 .....	.....	4,500,000*	1,080,000†
1915 .....	.....	6,000,000*	1,800,000†

* Commercial estimate.

† Boston market value.

STOCK OF WOOL IN BOSTON MARKET.

The stocks of unsold wool in the Boston market January 1, 1915 and 1916, as compiled for the Boston Wool Trade Association are as follows:

	December 27, 1915.	January 1, 1915.
	<i>Pounds.</i>	<i>Pounds.</i>
Territory, California, Texas	32,837,837	18,789,052
Fleeces (grown east of the Mississippi River, and Minnesota, Iowa, and Missouri)	4,470,800	3,632,250
Scoured	7,158,049	2,397,869
Pulled	1,527,781	1,563,164
Foreign, Class 1 and 2	9,734,193	1,178,115
Foreign, Class 3	1,474,769	779,858
Total	57,203,429	28,340,308

The unsold stock of wool in Boston January 1, 1913, was 42,849,855 pounds, and 43,800,549 pounds in 1914.

SLAUGHTER AND MOVEMENT OF SHEEP.

The total number of sheep killed yearly at four Western centers, Chicago, Kansas City, St. Louis, and Omaha, and total yearly receipts of sheep at Eastern seaboard markets, Boston, New York, Philadelphia, and Baltimore, are reported in the "Chicago Price Current Grain Reporter's Statistical Annual," as follows:

SEABOARD SHEEP RECEIPTS, AND SLAUGHTER AT PRINCIPAL WESTERN POINTS, 12 YEARS, 1903-1914.

Calendar Year.	Western killings.	Seaboard receipts.	Total.
1903.....	5,827,000	3,314,000	9,141,000
1904.....	5,465,000	3,128,000	8,593,000
1905.....	5,879,000	2,425,000	8,304,000
1906.....	6,117,000	2,606,000	8,723,000
1907.....	5,701,000	2,956,431	8,657,431
1908.....	5,824,000	3,364,349	9,188,349
1909.....	6,578,000	3,346,147	9,924,147
1910.....	6,911,000	3,173,706	10,084,706
1911.....	8,295,000	3,244,000	11,539,000
1912.....	9,055,000	6,426,720	15,481,720
1913.....	8,592,000	3,690,177	12,282,177
1914.....	8,242,000	2,191,254	10,433,254

The Western killings and the seaboard receipts were considerably smaller than in the preceding year, notwithstanding the growth of population and the increasing demand for meat. The decrease for the year in the recorded slaughter at these points is 1,848,923 head and the total 10,433,254.

The Department at Washington furnishes data from which the following table has been constructed. It shows the number of sheep carcasses inspected by the Government officials at the various slaughter-houses in the country for the year 1914 to have been 14,229,343 and for the ten months of 1915 to amount to 8,922,657.

SHEEP SLAUGHTER OF THE UNITED STATES UNDER THE FEDERAL MEAT INSPECTION AS REPORTED FOR THE FIRST TEN MONTHS OF 1915.

Compiled from Official Reports of the United States Department of Agriculture

	Chicago.	Fort Worth.	Kansas City.	National Stock Yards.
1915.				
January	406,740	6,393	88,439	30,161
February	354,025	7,962	122,212	42,830
March	208,168	10,039	131,730	31,149
April	233,246	11,497	118,824	32,962
May	197,414	23,582	88,683	28,607
June	185,631	38,154	68,112	38,973
July	223,179	24,751	80,997	72,402
August	271,638	12,569	60,775	56,419
September	280,779	5,224	89,908	49,478
October	303,657	7,434	140,696	29,715
Total 10 months, 1915....	2,664,477	147,605	990,376	412,696

SHEEP SLAUGHTER OF THE UNITED STATES. — *Continued.*

	South Omaha.	South St. Joseph.	All Other Points.
1915.			
January	131,882	41,858	461,596
February	186,340	63,417	419,482
March	177,004	76,390	311,432
April	189,309	82,313	318,052
May	119,294	62,175	310,151
June	51,533	39,901	316,757
July	90,209	31,651	359,473
August	159,316	30,053	393,910
September	221,138	39,164	453,545
October	238,293	58,253	441,601
Total 10 months, 1915 ..	1,564,318	525,175	3,784,999

THE COURSE OF PRICES.

The wool market during the year has been very difficult to forecast. The tremendous demand for wool for army purposes ; foreign embargoes ; uncertainty about deliveries ; large importations of foreign fabrics notwithstanding the demand of foreign mills for war munitions ; the increasing activity of our own manufactory, consequent on the improved condition of business, occasioned by immense orders for war materials of all kinds ; the increase in wages and employment of many directly

FLUCTUATIONS IN WOOL PRICES,

DOMESTIC AND FOREIGN, 1891-1915,

MCKINLEY TARIFF OCTOBER 1, 1890, TO AUGUST 27, 1891; GORMAN-WILSON TARIFF AUGUST 27, 1894, TO JULY 24, 1897;

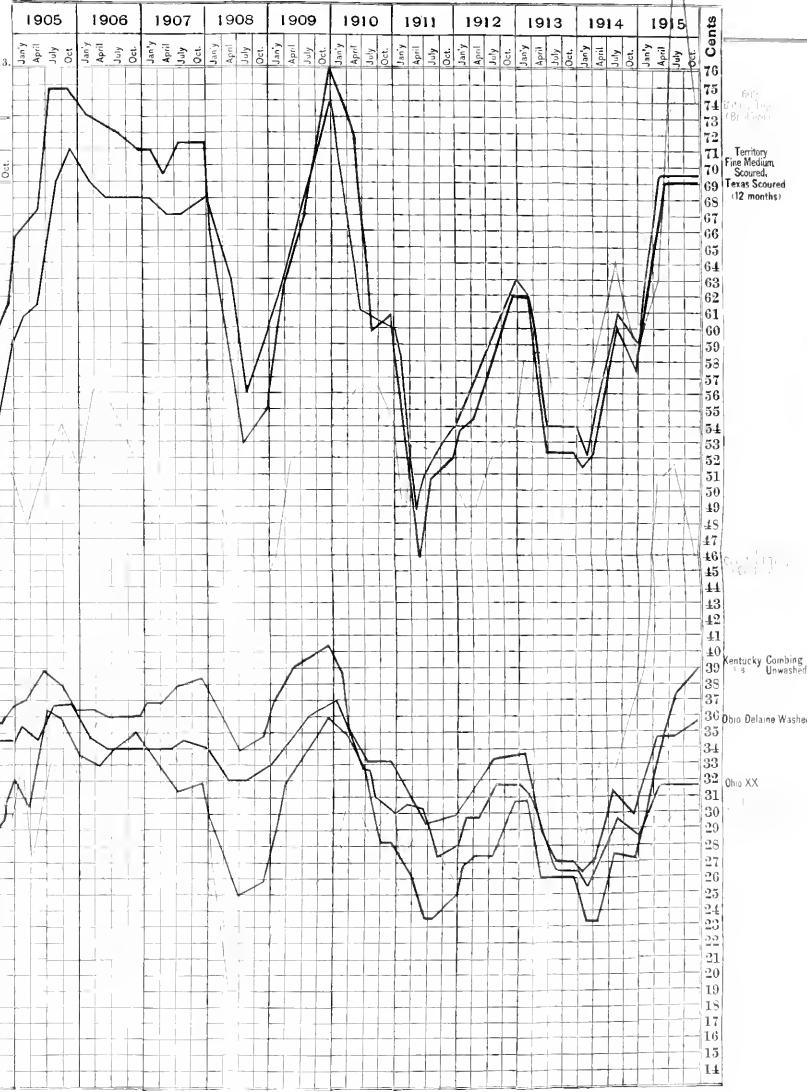
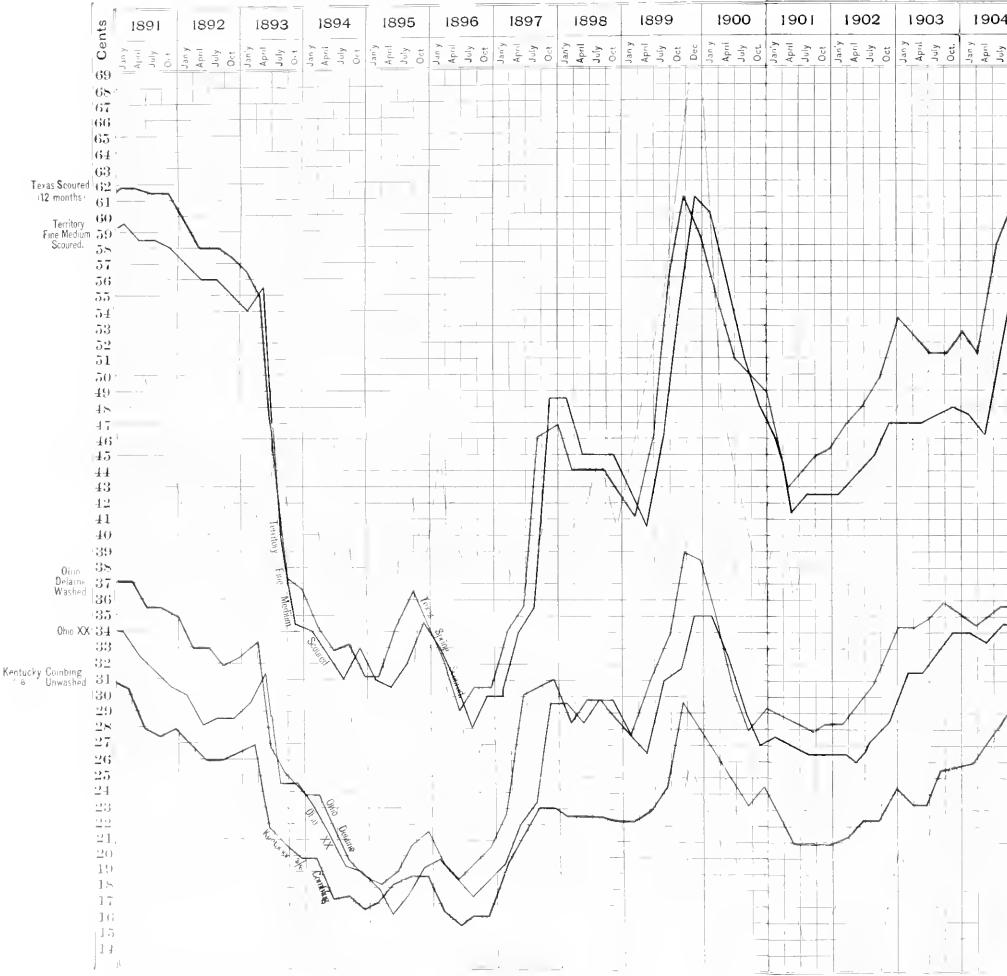
(WOOL 15% REMOVED UNDER THE GORMAN-WILSON LAW AUGUST 27, 1894, AND THE REDUCED DUTIES ON MANUFACTURES OF WOOL TAKE EFFECT JANUARY 1, 1896.)

DINGLBY TARIFF JULY 24, 1897, TO OCTOBER 5, 1909; ALDRICH-PAYNE TARIFF OCTOBER 5, 1909, TO OCTOBER 3, 1913; SIMMONS-UNDERWOOD TARIFF AFTER OCTOBER 3, 1913.

Wool 15% REMOVED UNDER THE GORMAN-WILSON LAW AUGUST 27, 1894, AND THE REDUCED DUTIES ON MANUFACTURES OF WOOL TAKE EFFECT JANUARY 1, 1896.)

Wool 15% REMOVED UNDER THE GORMAN-WILSON LAW AUGUST 27, 1894, AND THE REDUCED DUTIES ON MANUFACTURES OF WOOL TAKE EFFECT JANUARY 1, 1896.)

PUBLISHED BY THE NATIONAL ASSOCIATION OF WOOL MANUFACTURERS, BOSTON, MASS., U. S. A.



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engaged in furnishing these supplies, which has had a great effect in improving business conditions generally; the dyestuff difficulties; the immense importations of first and second class wools; the probability of greatly increased importations of wool manufactures on the termination of the war, and financial questions — are some of the many problems which American wool dealers and manufacturers have had to grapple with during the year. These and other factors have had their influence on the wool market the general course of which is shown on the fluctuations chart herewith.

The Boston prices of domestic wools in October for the last fifteen years are shown in the table which follows:

COMPARATIVE PRICES OF DOMESTIC WOOL IN BOSTON, OCTOBER, 1901-1915.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
OHIO, PENNSYLVANIA, AND WEST VIRGINIA. (Washed.)															
XX and above . . .	26½	28½	34	35	36½	34	34	33	36	30	28	31	26	30	32
Medium	26	29	32	36	41½	40	40	34	40	34	31	37	30	33	40
Fine Delaine	28	31½	36	36	37½	36	38½	35	40	34	30	34	27	31	34
(Unwashed.)															
Fine	19½	21½	23½	24	27	26	27	23	28	22	20	23	20	24	26
Medium	20	23	25	30	34½	33	33	26	36	28	25	30	23	27	36
Fine Delaine	21	24	26	27	30	28	31	28	33	26	24	28	22	26	30
MICHIGAN, WISCONSIN, NEW YORK, ETC. (Washed.)															
Fine	20½	24	27½	27½	31*	30*	30*	28*	31*	28*	*	*	*	*	*
Medium	24½	27	31	33	40	39	39	33	38	33	30	36	29	32	38
Fine Delaine	24½	29	34	34	36	34	37	34	38	32	28	33	26	29	32
(Unwashed.)															
Fine	17	19	21½	22	25	24	25½	22	26	20	18	22	19	22	24
Medium	19½	21½	24	29	33	32	32	25	34	27	24	29	22	26	35
Fine Delaine	19	22	23½	25	28	26	29	26	32	25	22	26	21	24	28
KENTUCKY AND INDIANA. (Unwashed.)															
Medium	21	22½	24½	30	35	33	31	25	35	28	25	31	24	27	39
MISSOURI, IOWA, AND ILLINOIS. (Unwashed.)															
Medium	19½	21½	23½	29	34	32	30	24	32	26	23	28	22	25	35
TEXAS. (Scoured Basis.)															
Fine, 12 months . .	44	52½	52½	62	75	70	71	55	75	60	52	62	52	58	68
Fall, fine	37	45	42½	52	62	58	58	45	60	50	44	50	43	48	57
CALIFORNIA (Scoured Basis.)															
Spring, Northern, free, 12 months . .	43½	50	52	62	74	70	68	50	70	55	48	54	48	53	65
Fall, free	38½	43	42½	53	62	60	58	40	53	45	40	45	40	45	55
TERRI TORY WOOL, IN- CLUDING MONTANA, WYOMING, UTAH, IDAHO, OREGON, ETC. (Scoured Basis.)															
Staple fine	46	55	55	65	76	71	73	60	78	65	60	67	54	60	72
“ medium	44	50	51	60	70	66	68	52	70	57	52	60	47	53	65
Clothing, fine	43	48	50	60	72	68	65	53	70	58	50	60	48	55	68
“ medium	40	45	46	55	68	63	60	45	65	50	45	56	43	50	60

* Nominal.

BOSTON RECEIPTS AND SHIPMENTS OF WOOL.

The volume of the wool business of Boston is well illustrated by the following table, which shows the receipts of domestic and foreign wools separately and also the total receipts, with the reported shipments of all wools for a period of five years, as compiled by the Boston Chamber of Commerce:

YEARLY RECEIPTS AND SHIPMENTS OF WOOL AT BOSTON FOR FIVE YEARS
1911-1915, INCLUSIVE.

YEAR.	RECEIPTS.			SHIPMENTS REPORTED.
	Domestic.	Foreign.	Total.	
1911.....	<i>Pounds.</i> 247,463,739	<i>Pounds.</i> 149,487,123	<i>Pounds.</i> 396,950,862	<i>Pounds.</i> 217,239,723
1912.....	236,458,198	124,143,562	360,601,760	276,912,464
1913.....	161,800,680	63,336,325	225,136,325	183,710,214
1914.....	190,730,629	144,145,491	334,876,120	267,149,305
1915.....	181,700,678	247,914,385	429,615,063	272,473,422

The following tables show the annual receipts of domestic and foreign wool in Boston by months for the years 1912 to 1915, inclusive, and the shipments in pounds from Boston as reported by the several railroads and by sea for the year:

RECEIPTS OF WOOL IN BOSTON, 1912-1915.
(*Boston Chamber of Commerce, James A. McKibben, Secretary*)

SHIPMENTS OF WOOL FROM BOSTON BY MONTHS (Pounds).
(Boston Chamber of Commerce, James A. McKeyben, Secretary.)

1915.

RAILROADS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Boston & Albany R.R.	3,687,106	4,729,564	4,502,291	4,098,437	4,771,930	5,017,218	4,724,740	3,384,589	4,155,190	2,765,706	2,911,598	50,077,172	
Boston & Albany Grand Junction	65,760	1,049,351	2,500,619	1,085,420	2,122,964	1,875,260	1,027,700	725,386	1,411,430	2,129,001	1,163,220	15,555,600	
New York, New Haven & Hartford R.R.	3,131,538	3,284,070	3,943,850	3,460,380	4,732,510	7,104,060	5,697,720	5,259,260	4,586,910	4,178,060	6,303,940	7,374,958	59,466,456
Boston & Maine R.R.	6,311,601	8,574,311	6,804,406	5,766,831	6,306,533	8,189,130	6,716,146	5,463,516	5,289,171	5,580,668	6,320,633	77,861,224	
Terminal	1,057,820	1,948,274	5,991,613	3,240,294	3,117,909	2,752,819	2,558,583	3,299,089	2,213,163	4,080,930	3,787,661	4,848,640	39,167,976
Mystic Wharf	2,459,724	6,088,931	1,437,292	1,421,714	1,746,200	2,059,310	1,868,357	2,906,250	2,040,065	2,469,430	3,579,387	3,218,655	30,355,234
By sea													
Total	18,623,423	20,483,832	25,725,463	21,899,374	21,148,307	25,197,616	25,374,277	24,023,194	18,462,668	21,584,211	24,143,363	25,807,204	272,473,422
Total after January 1	18,623,423	39,107,265	64,823,208	86,732,482	107,880,889	133,078,505	158,452,782	182,475,976	210,938,044	232,522,855	256,666,218	272,473,422	272,473,422
Total after January 1 preceding year													
Total after January 1 preceding year	25,598,503	48,711,106	78,622,865	104,827,165	128,063,577	150,683,778	173,050,571	194,532,679	213,163,139	234,156,423	251,557,376	267,149,305	267,149,305

The above table does not cover all the shipments of wool from Boston during the year, but as the Chamber of Commerce explains, comprises only those of which the transportation companies render an account. It appears from the previous table that the receipts of wool, both foreign and domestic, during the year amounted to 129,615,063 pounds, a sum 147,141,613 pounds greater than the table of shipments accounts for. It is true that the Boston Wool Trade Association reports 57,263,429 pounds of wool unsold in Boston in dealer's hands on December 27, but deducting this amount there are still 90,000,000 pounds of this year's receipts unaccounted for, in addition to any amount carried over from 1913. It may be that manufacturing concerns have considerable quantities on storage here, but if transportation companies would give more complete statements of the movement of wool, the information would be greatly appreciated by the trade.

STATISTICS OF IMPORTS OF WOOL AND WOOLENS.

We are indebted to the Hon. E. E. Pratt, Chief of the Bureau of Foreign and Domestic Commerce of the Department of Commerce, for the facts relating to the imports of wool and wool manufactures for the fiscal year ending June 30, 1915, which are given in the following tables. The table of imports of wool and manufactures of wool entered for consumption for the fiscal years ending June 30, 1914 and 1915, will be found on pages 98-111. Its totals differ from the statements of similar imports on page 30 because the latter reports the actual imports during the year, some of which entered at once into consumption while some were stored in government bonded warehouses, while the table on page 98 shows the goods which entered into consumption on arrival, plus those taken from bonded warehouse, some of which may have been imported in previous years.

WOOL IMPORTED INTO BOSTON, NEW YORK, AND PHILADELPHIA.
BY PORTS AND CLASSES.

GROSS IMPORTS YEAR ENDING JUNE 30.	BOSTON.			NEW YORK.			PHILADELPHIA.			TOTAL.	
	Class 1.	Class 2.	Class 3.	Class 1.	Class 2.	Class 3.	Class 1.	Class 2.	Class 3.		
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	
1896.....	78,398,112	9,539,881	30,325,673	28,939,693	543,352	52,764,614	8,301,279	2,070,608	15,055,110	225,938,322	
1897.....	137,221,457	23,156,843	33,421,729	48,428,014	2,371,604	62,522,561	9,884,925	1,811,398	13,676,511	332,495,042	
1898.....	36,205,712	2,672,113	22,823,137	5,865,916	458,732	50,071,999	2,306,013	17,505	9,661,885	130,083,012	
1899.....	8,335,942	1,554,556	12,456,404	2,911,683	155,121	43,251,114	1,517,560	344,368	4,971,888	75,498,636	
1900.....	30,192,843	5,343,455	29,333,226	3,561,996	1,275,008	61,922,600	3,281,782	3,266,758	14,486,204	152,603,872	
1901.....	22,416,924	3,396,580	19,913,032	5,602,497	210,782	39,112,400	2,072,551	572,304	8,171,451	101,518,521	
1902.....	51,479,822	2,820,800	21,778,576	7,306,817	52,417,988	54,683,922	266,807	19,780,677	162,243,110		
1903.....	30,601,779	8,877,714	35,294,573	5,323,738	1,693,694	54,119,001	4,443,900	1,991,395	29,648,574	171,994,458	
1904.....	37,821,884	8,980,496	37,984,908	3,070,482	1,389,643	48,582,335	4,509,591	362,262	27,699,439	170,401,040	
1905.....	86,741,441	19,018,797	37,070,260	9,908,856	2,908,801	44,082,025	11,146,872	1,569,526	30,346,375	212,792,953	
1906.....	64,801,760	8,336,094	22,420,950	8,555,810	1,657,970	49,278,261	10,227,347	1,772,888	26,788,974	193,840,054	
1907.....	61,116,729	4,204,964	25,713,122	8,817,037	1,159,185	61,357,911	8,744,454	854,390	22,226,390	194,194,182	
1908.....	34,002,148	7,247,739	13,023,020	3,397,855	522,524	36,778,123	6,220,038	1,275,275	16,647,519	118,298,301	
1909.....	114,512,293	11,591,627	24,757,185	11,100,437	383,908	52,853,241	12,531,238	1,852,418	24,005,573	253,587,920	
1910.....	79,232,943	17,022,966	27,476,785	14,399,419	1,574,625	66,098,923	13,081,388	4,635,818	26,762,386	250,285,253	
1911.....	32,689,348	5,532,189	20,117,152	1,327,443	252,927	43,540,674	2,205,818	531,663	18,818,639	125,015,853	
1912.....	54,443,667	5,840,571	25,538,651	4,189,259	473,126	56,040,867	6,878,019	1,162,021	22,660,591	177,226,772	
1913.....	50,887,889	8,468,552	27,131,377	3,652,043	692,695	55,702,561	6,483,156	2,575,977	24,667,461	180,261,721	
1914.....	100,371,290	8,630,104	23,809,154	11,409,227	2,863,728	53,845,615	9,364,414	1,094,239	23,199,709	236,080,682	
1915.....	161,405,006	8,934,849	7,926,024	26,414,800	1,849,884	52,391,984	8,822,355	1,097,321	4,715,701	*273,557,924	

* Includes mohair, alpaca, etc.
Note.—These figures represent about 95 per cent of the total quantity of wool imported into all the ports of the United States.

WOOL IMPORTED INTO BOSTON, NEW YORK, AND PHILADELPHIA.
BY PRINCIPAL COUNTRIES OF PRODUCTION.

YEAR ENDING JUNE 30.	Russia.	Turkey.	United Kingdom.	Argentina.	Uruguay.	Chinese Empire.	British Indies.	British Oceania.	All other Countries.		TOTAL. <i>Pounds.</i>
									<i>Pounds.</i>	<i>Pounds.</i>	
1896	13,150,509	17,987,753	14,229,068	32,281,341	9,048,350	26,084,232	9,897,531	72,995,090	30,264,448	225,938,322	
1897	19,706,449	20,239,717	27,759,419	64,969,556	15,004,257	21,461,478	10,989,980	109,912,851	42,451,335	332,495,042	
1898	16,999,224	9,282,762	12,434,332	16,734,279	1,309,974	20,369,294	6,445,063	31,877,252	14,630,832	130,083,012	
1899	13,373,350	5,697,377	9,156,624	7,957,657	149,573	14,276,124	6,949,491	7,249,740	10,688,700	75,498,636	
1900	18,869,252	9,577,147	20,393,063	20,064,279	1,072,307	20,398,289	9,397,020	23,121,394	19,171,121	152,663,872	
1901	13,720,814	8,355,941	16,919,733	14,358,218	783,075	9,181,105	4,146,698	22,570,030	11,482,847	101,518,521	
1902	16,322,231	12,215,316	21,737,509	45,287,370	533,634	18,843,396	6,813,401	26,559,531	13,930,722	162,243,110	
1903	19,455,392	15,440,933	31,778,842	23,265,309	541,384	26,032,976	11,850,446	25,238,498	18,390,678	171,994,458	
1904	23,403,797	17,742,473	26,807,042	28,168,060	112,208	24,912,491	10,088,556	25,792,098	13,374,315	170,401,040	
1905	23,790,451	23,454,937	25,213,450	47,695,567	7,740,309	30,023,157	12,202,135	56,212,733	16,460,214	242,792,953	
1906	21,180,755	16,032,199	21,615,963	42,167,927	5,807,190	30,233,762	6,011,319	39,548,551	11,242,388	193,840,054	
1907	21,231,378	15,710,725	14,803,620	23,195,208	5,856,611	39,762,115	8,637,581	52,538,582	12,338,352	194,194,182	
1908	12,913,964	10,686,993	31,154,766	16,221,835	1,604,221	21,711,431	9,336,421	27,032,576	7,438,644	118,298,301	
1909	7,966,392	10,050,199	51,125,711	58,379,834	5,868,232	35,634,909	12,952,758	79,420,578	12,189,107	253,587,920	
1910	13,263,175	13,521,623	37,097,134	31,082,184	8,789,785	46,599,637	16,603,135	68,199,625	15,128,956	250,285,953	
1911	12,944,356	9,552,982	12,854,102	17,891,376	71,1525	30,055,963	10,831,635	20,494,162	9,679,750	125,015,853	
1912	20,253,067	13,682,915	13,656,409	27,621,628	3,216,988	32,636,950	15,725,299	38,494,677	11,938,839	177,226,772	
1913	24,695,118	15,457,035	19,330,440	26,742,584	3,718,873	35,572,181	10,212,091	31,852,863	12,680,536	180,261,721	
1914	22,845,353	10,357,809	22,023,638	42,276,542	13,017,718	31,077,855	14,149,719	64,697,584	14,141,199	*236,080,682	
1915	2,290,408	4,729,540	16,446,538	77,808,041	16,597,623	36,717,754	2,120,343	75,865,711	40,981,966	*273,557,924	

* Includes 1,493,262 pounds of alpaca, mohair, etc., in 1914 and 4,848,869 pounds in 1915.

NOTE.—These figures represent about 95 per cent of the total quantity of wool imported into all ports of the United States.

IMPORTS OF WOOL BY PORTS AND CLASSES.

These tables show the gross imports of wool brought into the three principal wool importing centers both by classes and ports, but as stated in the footnotes to the tables there is a moderate quantity imported each year into minor ports. The tables show a great increase in the quantity of wool imported, as compared with the preceding year. Boston retains her supremacy in the importation of Class I and II wools, receiving a total of 170,339,880 pounds, against 28,264,684 pounds in the other two ports. The imports of Class II wools, never very great in quantity, amounted this year to 11,882,054 pounds, including 4,848,809 pounds of mohair and alpaca. The imports of Class III wools into New York amounted to 52,391,984 pounds, a total nearly forty millions of pounds in excess of the receipts of similar wools in Boston and Philadelphia. The total importation of Class III wools in the three ports amounted to 65,033,709 pounds, and of all wools, including mohair, etc., to 273,557,924 pounds.

COUNTRIES OF PRODUCTION AND SHIPMENT.

The countries of production and immediate shipment of wools imported into the United States during the fiscal year ending June 30, 1915, and the quantity of wool from each are shown in the next table. As was the case in our last Review, this statement was not prepared by the statistical bureau of the Department of Commerce, but has been compiled with much care from the "Monthly Summaries."

WOOL IMPORTED INTO BOSTON, NEW YORK, AND PHILADELPHIA, FISCAL YEAR
ENDING JUNE 30, 1915, BY COUNTRIES OF PRODUCTION, IMMEDIATE SHIPMENT,
AND CLASSES, COVERING ABOUT 95 PER CENT OF ALL WOOL IMPORTED.

Compiled from Reports of United States Bureau of Foreign and Domestic Commerce.

COUNTRIES OF PRODUCTION.	Countries of immediate shipment.	Class I.	Class II.	Mohair, Alpaca, etc.*	Class III.	TOTAL.
Europe:						
Austria-Hungary . . .	Austria-Hungary . . .	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Hungary . . .	England . . .	•	•	•	67,081	69,217
Belgium . . .	Belgium . . .	28,226	•	2,136	•	38,054
France . . .	France . . .	58,732	•	9,828	•	•
Denmark . . .	Denmark . . .	•	•	31,177	33,351	124,010
England . . .	England . . .	•	•	150	•	•
Germany . . .	Germany . . .	98,007	•	350,590	•	454,360
Belgium . . .	Belgium . . .	5,753	•	•	•	•
Greece . . .	Greece . . .	•	•	11,117	18,264	29,381
Turkey in Europe . . .	Turkey in Europe . . .	•	•	•	•	•
Iceland . . .	Iceland . . .	307,027	•	43,267	219,925	570,219
Denmark . . .	Denmark . . .	•	•	•	•	•
Italy . . .	Italy . . .	495,106	•	86,229	65,222	659,208
Norway . . .	Norway . . .	12,651	•	•	•	31,917
Portugal . . .	Portugal . . .	49,039	39,041	•	554,577	705,127
Eugland . . .	Eugland . . .	•	•	62,470	•	•
Russia in Europe . . .	Russia in Europe . . .	•	•	685,104	•	•
Denmark . . .	Denmark . . .	•	•	2,125	729,999	1,420,295
England . . .	England . . .	3,067	•	•	418,600	•
Spain . . .	Spain . . .	26,375	•	6,317	•	•
Belgium . . .	Belgium . . .	•	•	•	•	•
England . . .	England . . .	122,209	•	10,385	•	•
France . . .	France . . .	40,442	•	84,890	•	786,815
Netherlands . . .	Netherlands . . .	15,000	•	•	•	•
Portugal . . .	Portugal . . .	52,346	•	10,251	•	•
Sweden . . .	Sweden . . .	•	8,591	•	•	8,591
Turkey in Europe . . .	Turkey in Europe . . .	28,863	58,543	202,288	247,274	•
Denmark . . .	Denmark . . .	•	•	13,900	•	•
England . . .	England . . .	•	•	694,421	134,240	1,650,349
France . . .	France . . .	•	•	•	69,945	•
Portugal . . .	Portugal . . .	•	•	•	37,510	•
Turkey in Asia . . .	Turkey in Asia . . .	•	•	•	163,367	•
United Kingdom:						
England . . .	England . . .	2,474,212	4,154,017	280,681	902,599	8,034,825
Canada . . .	Canada . . .	27,408	•	•	•	•
Scotland . . .	Scotland . . .	•	147,242	•	48,366	•
England . . .	England . . .	•	428,437	•	97,817	526,254
Scotland . . .	Scotland . . .	•	1,357,392	•	5,558,478	7,885,459
England . . .	England . . .	•	471,804	•	517,785	•
England . . .	England . . .	•	•	•	6,593	6,593
British India . . .	British India . . .	•	•	•	859,121	•
Canada . . .	Canada . . .	•	•	•	18,405	•
England . . .	England . . .	62,064	•	25,356	1,116,278	2,120,343
Newfoundland and Labrador . . .	Newfoundland and Labrador . . .	•	•	•	3,491	•
Turkey in Asia . . .	Turkey in Asia . . .	•	•	•	35,628	•
China . . .	China . . .	563,848	28,448	150	35,455,392	36,717,754
England . . .	England . . .	•	•	•	319,620	•
Russia in Asia . . .	Russia in Asia . . .	•	•	•	350,296	•
France . . .	France . . .	•	•	•	8,590	18,406
Russia in Europe . . .	Russia in Europe . . .	•	•	•	9,816	•
Russia in Asia . . .	Russia in Asia . . .	•	•	•	841,567	870,113
Russia in Europe . . .	Russia in Europe . . .	•	•	•	28,546	•
Turkey in Asia . . .	Turkey in Asia . . .	15,560	•	15,432	2,287,962	•
England . . .	England . . .	56,609	•	101,737	370,695	3,079,191
Turkey in Europe . . .	Turkey in Europe . . .	•	•	36,951	194,245	•
Russia in Europe . . .	Russia in Europe . . .	•	•	101,477	101,477	101,477

* Previous to 1913 included with Class II wools.

WOOL IMPORTED INTO BOSTON, ETC. — *Continued.*

COUNTRIES OF PRODUCTION.	Countries of immediate shipment.	Class I.	Class II.	Mohair, Alpacas, etc.*	Class III.	TOTAL.
British S. Africa,	British South Africa,	23,717,804	3,400	771,522	460,136	29,172,877
	Belgium	101,078	· · · · ·	· · · · ·	· · · · ·	
	England	2,579,779	· · · · ·	1,453,305	22,051	
	France	53,471	· · · · ·	· · · · ·	· · · · ·	
Egypt	Scotland	· · · · ·	· · · · ·	10,331	· · · · ·	79,676
	Egypt	79,676	· · · · ·	· · · · ·	· · · · ·	
	French Africa	· · · · ·	· · · · ·	· · · · ·	34,722	
	Morocco	2,448	· · · · ·	· · · · ·	· · · · ·	
Canada	Canada	1,123,943	45,113	· · · · ·	· · · · ·	1,169,056
	Mexico	· · · · ·	· · · · ·	· · · · ·	96,076	
	Argentina	65,137,983	90,212	· · · · ·	10,509,249	
	Belgium	231,574	· · · · ·	· · · · ·	· · · · ·	
Argentina	England	1,327,407	· · · · ·	· · · · ·	· · · · ·	77,808,041
	France	379,482	· · · · ·	· · · · ·	132,074	
	Chile	1,232	· · · · ·	· · · · ·	· · · · ·	
	England	17,096	· · · · ·	· · · · ·	· · · · ·	
Brazil	Brazil	115,147	· · · · ·	· · · · ·	· · · · ·	115,147
	Chile	2,368,127	· · · · ·	· · · · ·	404,417	
	Argentina	40,507	· · · · ·	· · · · ·	· · · · ·	
	Belgium	56,594	· · · · ·	· · · · ·	· · · · ·	
Chile	England	1,399,962	· · · · ·	· · · · ·	733	4,270,340
	Colombia	492	· · · · ·	· · · · ·	· · · · ·	
	Ecuador	· · · · ·	· · · · ·	· · · · ·	1,177	
	Pern	836,042	150,202	1,219,065	18,641	
Peru	England	141,734	· · · · ·	5,088	17,805	2,389,827
	Panama	· · · · ·	· · · · ·	250	1,00	
	Uruguay	14,612,703	· · · · ·	18,334	· · · · ·	
	Argentina	190,147	· · · · ·	· · · · ·	· · · · ·	
Uruguay	Belgium	1,348,318	· · · · ·	· · · · ·	· · · · ·	16,597,623
	Canada	5,151	· · · · ·	· · · · ·	· · · · ·	
	England	294,762	· · · · ·	· · · · ·	18,135	
	France	98,887	· · · · ·	· · · · ·	· · · · ·	
Venezuela	Germany	11,186	· · · · ·	· · · · ·	· · · · ·	2,645
	Venezuela	· · · · ·	· · · · ·	· · · · ·	2,615	
	Dutch West Indies	· · · · ·	· · · · ·	· · · · ·	25,080	
	Jamaica	· · · · ·	· · · · ·	· · · · ·	710	
Australia and Tasmania	Australia	44,623,143	· · · · ·	· · · · ·	· · · · ·	66,781,532
	Belgium	1,187,155	· · · · ·	· · · · ·	· · · · ·	
	Canada	23,963	· · · · ·	· · · · ·	· · · · ·	
	England	20,183,810	· · · · ·	· · · · ·	· · · · ·	
New Zealand	France	410,824	· · · · ·	· · · · ·	· · · · ·	9,084,179
	Germany	350,276	· · · · ·	· · · · ·	· · · · ·	
	Scotland	2,361	· · · · ·	· · · · ·	· · · · ·	
	New Zealand	335,348	· · · · ·	· · · · ·	· · · · ·	
New Zealand	Belgium	61,179	· · · · ·	· · · · ·	· · · · ·	9,084,179
	Canada	12,710	· · · · ·	· · · · ·	· · · · ·	
	England	8,636,056	38,886	· · · · ·	· · · · ·	
Total		196,642,161	7,033,245	4,848,809	65,033,709	273,557,924

* Previous to 1913 included with Class II wools.

The imports of Class I wools into the three ports were 75,497,230 pounds in excess of those of last year, which were 60,193,323 pounds in excess of those of the previous year and surpassed the imports of 1913 and 1914 combined, as appears from the following tabular statement, which covers the years 1912, 1913, 1914, and 1915, and shows at the same time the amount coming.

into this country from each of the principal countries of production. In no year since 1896-7 have the imports of Class I wools reached so great a volume.

	1915.	1914.	1913.	1912.
	Pounds.	Pounds.	Pounds.	Pounds.
Australasia	75,826,825	64,319,919	31,818,992	38,186,399
Argentina	67,076,516	36,301,837	24,393,428	23,049,591
Uruguay	16,561,154	11,639,243	3,537,724	3,125,759
British South Africa*	26,452,132	.....	.....	.....
All other	10,725,534	8,883,932	1,272,954	1,149,196
	196,642,161	121,144,931	61,023,098	65,510,945

* Included previously in "All other."

The British islands, the home of Class II wools, furnished 6,538,892 pounds of the 11,882,054 pounds imported during the year. Included in the total of Class II wools is 4,848,054 pounds of Angora goat hair (which comes from Turkey and the Cape of Good Hope, and is known as mohair), and camel, vicuna and similar hairs, the product of Asia and South America. Until October 3, 1913, these hairs have always been reported as wools of Class II, having been subject to the same rates of duty and they are so included in this table for purposes of comparison, although under the present tariff law other wools are free while these are subject to a 15 per cent duty.

Class III wool comes from nearly every portion of the globe, but principally from the countries named in the subjoined statement, which covers the imports of the last three years. These wools are mostly used for the manufacture of carpets and low-grade blankets. It will be noticed that while our imports of these wools have been greatly decreased, the reduction arises in the countries engaged directly or indirectly in the present war. The quantities coming from China and Argentina have in each case been increased about five millions of pounds.

	1915.	1914.	1913.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Chinese Empire	36,125,308	30,961,452	35,570,788
Russia (Europe and Asia)...	2,297,341	22,769,482	24,450,574
United Kingdom.....	7,125,345	7,416,182	9,447,134
Turkey (Europe and Asia) ..	3,505,238	9,817,164	13,833,505
British East Indies	2,032,923	14,107,320	10,212,091
Argentina.....	10,641,323	5,577,725	2,349,156
Germany	350,590	2,598,986	1,418,011
France	65,278	1,504,349	4,033,013
Iceland	263,192	1,747,326	1,760,351
All other	2,627,171	3,354,492	4,314,495
	65,033,709	100,854,478	107,389,118

The following table gives the total gross imports into the United States for the twelve last fiscal years. The quantity imported into other than the principal ports can be ascertained by comparison with other tables.

GROSS IMPORTS OF WOOL, FISCAL YEARS 1904-1915—POUNDS.

	Class I.	Class II.	Class III.	Total.
1904.....	45,575,993	12,934,143	115,232,698	173,742,834
1905.....	109,888,258	26,551,624	112,695,864	249,135,746
1906.....	86,810,307	15,204,254	99,674,107	201,688,668
1907.....	82,982,116	10,671,378	110,194,051	203,847,545
1908.....	45,798,313	13,332,540	66,849,681	125,980,524
1909.....	142,580,993	21,952,259	101,876,052	266,409,304
1910.....	111,604,330	31,614,235	120,721,019	263,939,584
1911.....	40,104,845	12,456,468	85,086,328	137,647,641
1912.....	71,203,329	15,557,664	106,639,720	193,400,713
1913.....	67,238,715	16,886,446	111,168,094	195,298,255
1914.....	125,088,761	20,556,795	102,003,313	247,648,869
1915.....	222,017,420	20,356,212	65,709,752	308,083,429

IMPORTS OF WOOL MANUFACTURES.

The gross imports of manufactures of wool show a total foreign value of \$29,791,356, an amount four and one-half millions less than the corresponding imports of the previous year, but still over eleven millions in excess of the average of the preceding five years.

These, being the foreign invoice values, cannot properly be used for comparison with the value of home manufactures, except by the addition of the customs duties paid. For such purposes the table of imports entered for consumption in which the duty paid is given should be used.

IMPORTS OF WOOL MANUFACTURES, 1910-1915. (FOREIGN VALUE.)

GROSS IMPORTS, YEARS ENDING JUNE 30,	1910.		1911.		1912.		1913.		1914.		1915.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Carpets (sq. yds.)	1,205,082	\$4,591,721	1,003,741	\$3,807,805	841,249	\$3,850,804	1,085,431	\$4,895,989	1,073,877	\$4,452,309	1,059,172	\$2,947,057
Clothing, etc., except shawls and knitgoods	1,812,542	2,254,756	2,111,477	2,158,384	2,111,477	2,158,384	2,268,125	2,268,125	2,268,125	2,268,125	2,268,125	1,800,391
Cloth, pounds	6,232,790	6,425,664	4,727,279	5,142,507	4,119,110	4,630,478	4,285,495	4,888,447	12,385,586	12,794,048	10,648,990	10,648,990
" square yards	48,345,084	9,374,140	30,414,343	6,282,566	15,415,245	3,279,198	15,712,155	3,321,626	19,442,047	2,376,549	29,542,723	29,542,723
" " pounds										24,521,451	4,396,660	8,000,010
Manufactures of mohair, etc.										24,521,451	4,396,660	8,000,010
Wool wastes										1,448,898	1,448,898	1,448,898
All other	1,827,114	1,082,157	980,662	1,053,695	1,053,695	1,053,695	5,578,906	5,578,906	5,578,906	5,578,906	5,578,906	5,578,906
Total	23,532,175	18,569,791	14,912,619	16,318,141	14,912,619	16,318,141	16,318,141	16,318,141	16,318,141	16,318,141	16,318,141	16,318,141

¹ July to December, 1913, inclusive.² January to June, 1914, inclusive.³ Since November 30, 1913.

IMPORTS OF WOOL AND MANUFACTURES OF WOOL.
Entered for Consumption Year ending June 30, 1915.

Condensed from Quarterly Reports of the United States Bureau of Foreign Commerce.

ARTICLES.	RATES OF DUTY.	QUANTITIES.	FOREIGN VALUES.	DUTIES.
Wool, hair of the camel, goat, and other like animals:				
Class I. — Merino, etc.:				
Unwashed, lbs.	Free.	209,113,822	\$48,797,438	· · · · ·
Washed, lbs.	"	4,391,401	1,420,107	· · · · ·
Scoured, lbs.	"	4,568,265	1,767,891	· · · · ·
Total, Class I		218,073,488	\$51,985,436	· · · · ·
Class II. — English blood wools, Angora goat hair, etc.:				
Washed and unwashed, lbs., Scoured, lbs.	"	14,977,895 72,594	\$3,708,433 25,216	· · · · ·
Camel's hair, etc.:				
Washed and unwashed, lbs., Total lbs.	"	26,120 15,076,609	7,205 \$3,740,854	· · · · ·
Angora goat hair:				
On the skin, lbs.	15%	75,807	\$16,474	\$2,471
Not on the skin, lbs.	"	4,607,017	1,433,130	214,970
Total Angora goat hair, lbs.	"	4,682,824	\$1,449,604	\$217,441
Total, Class II		19,759,433	\$5,190,458	· · · · ·
Class III. —				
Washed and unwashed, lbs., Scoured, lbs.	Free.	63,787,066 30,636	\$10,489,187 11,410	· · · · ·
Camel's hair:				
Washed and unwashed, lbs., Scoured, lbs.	"	1,651,853 10,424	349,714 5,307	· · · · ·
Total, Class III, lbs.		65,479,979	\$10,855,618	· · · · ·
Total wool, lbs.		303,312,900	\$68,031,512	\$217,441
Manufactures of wool, etc.:				
Wool and hair advanced, lbs., Rags, shoddy, wastes, etc., lbs.	8%	15,760	\$3,906	\$312
Free.		4,620,534	847,694	· · · · ·
Tops, wool and camel's hair, lbs.	8%	3,412,250	1,770,917	141,673
Mohair, alpaca, etc., lbs.	20%	66,725	25,663	5,133
Yarn, wholly or in chief value of wool, lbs.	18%	2,686,021	1,956,925	352,283
Mohair, alpaca, etc., lbs.	25%	583,383	356,552	89,138
Blankets, lbs.	25%	122,226	75,795	18,949
Carpets, sq. yds.	20 to 50%	1,137,057	3,212,046	1,455,272
Cloths, lbs.	25 to 40%	12,610,396	11,501,090	4,109,336
Dress goods, sq. yds.	35%	28,352,801	7,063,707	2,472,287
Dress goods, lbs.		7,797,435		
Wearing apparel	20 to 40%		1,903,142	675,572
All other, free and dutiable			1,162,175	381,817
Total, manufactures of			\$29,879,621	\$9,701,772
Total, wool and manufactures of			\$97,911,133	\$9,919,213

IMPORTS OF WOOL AND MANUFACTURES OF WOOL ENTERED FOR CONSUMPTION.

The preceding table is summarized from the quarterly statements of imports entered for consumption, issued by the Bureau of Foreign Commerce. The full table appears on pages 98 to 111 of this Bulletin.

The imports of wool entered for consumption for this and the preceding fiscal year compare as follows:

	Fiscal Years Ending June 30 —			
	1915.		1914.	
	Pounds.	Value.	Pounds.	Value.
Class I	218,073,488	\$51,985,436	171,444,445	\$41,328,432
Class II, including mohair, alpaca, etc.	19,759,433	5,190,458	25,206,111	6,563,347
Class III	65,479,979	10,855,618	130,770,234	21,390,524
Total	303,312,900	\$68,031,512	327,420,790	\$69,282,303

The imports for consumption of the principal wool manufactures compare as follows:

	1915.	1914.
Cloths		pounds, ¹ 1,984,689; value, ¹ \$2,298,765 " 10,735,343; " 10,765,926
Total	pounds, 12,610,396; value, \$11,501,099	pounds, 12,720,032; value, \$13,064,691
Dress goods	sq. yds., 28,352,801 { value, \$7,063,707 pounds, 5,797,435 {	sq. yds. value, ¹ \$1,375,055 pounds, 35,987,628; " 35,532,112
Total	value, \$7,063,707	value, \$6,907,167
Carpets	sq. yds., 1,137,057; value, \$3,212,046	sq. yds., 1,188,605; value, \$4,769,749
Yarns	pounds, 3,249,404; " 2,313,477	pounds, 3,339,086; " 2,237,460
Tops	" 3,478,975; " 1,796,580	" 3,301,056; " 1,467,210

¹ Under tariff of 1909.

² Under tariff of 1913.

³ January to June under tariff of 1913.

The war has practically destroyed for the time being the textile industries of Belgium and northern France, and compelled the wool manufacturers of other nations to turn their attention primarily to the production of army supplies, with the result that the strong competition with Europe that the new tariff law was forcing on our own manufacturers and which was very marked

in the first six months of 1914 has not been so much felt in recent months. Notwithstanding this temporary relief the foreign value of the imports for the year ending June 30, 1915, which are \$3,500,000 less than those of the previous year, are only \$234,000 short of the imports of the two fiscal years 1912 and 1913, and there can be no question that when the European nations are able to resume their usual activities, American manufacturers under existing American conditions will have to meet the fiercest competition. The imports of wool manufactures for the four latest years compare as follows:

IMPORTS OF WOOL MANUFACTURES ENTERED FOR CONSUMPTION.

Fiscal Years 1912, 1913, 1914, and 1915.

	Foreign Value.	Duty Collected.	Duty Paid Value.
1915.....	\$29,879,621	\$9,701,772	\$39,581,393
1914.....	33,519,799	14,387,242	47,907,041
1913.....	15,031,317	12,293,904	27,325,221
1912.....	15,182,694	12,599,246	27,781,940

THE ENGLISH MARKET.

The record which follows, taken in connection with the reports of the closing sales of the previous year, covers the most remarkable period in the history of the wool market. We preface it with the text of the regulations by the British government putting an embargo on the exportation of wools from Great Britain and her colonies, which was imposed and became effective at the beginning of October series of sales in 1914.

In July, 1914, owing to fashion's demands, merino wools were more in request than they had been for some time, while production had considerably diminished; in consequence prices ruled some 5 per cent higher than at the preceding sales, and cross-breds also were in great demand and showed an increase of from 7½ to 10 per cent.

Barely a week after the close of the July sales came the announcement that the war, long anticipated and dreaded, had actually begun. The energetic and wise action of the various governments in declaring moratoria — under which the banks practically suspended specie payments and an extension of credit was available to all classes of operators — saved the situation, and prevented financial panics with their inevitable consequences. Then followed the great demand on the wool manufacturers for military cloths and other supplies for the allied armies, and the

embargoes to conserve England's wool supply and to hamper her enemies.

TEXT OF THE WOOL EMBARGO.

At the opening of the fifth series in October, 1914, the British government through the auctioneer made the following announcement:

"His Majesty's government desire it to be known that the exportation of raw sheep and lambs' wool from the United Kingdom to European countries other than Russia (except Baltic ports), Belgium, France, Spain, and Portugal, is prohibited from to-day; and they also desire it to be known that buyers of wool for exportation to other destinations will purchase at their own risk, as circumstances may render it necessary to extend the scope of this prohibition at any moment."

Before the first sale was concluded, the auctioneer was handed a further announcement, which said:

"His Majesty's government have to-day prohibited the exportation of any wools out of the country for the time being."

This step was taken because some firms were conducting a considerable trade with enemy countries.

American manufacturers and dealers submitted with as good grace as possible to the restrictions put upon them, whose severity has been greatly mitigated by the arrangements for the export of wool made through the Textile Alliance, full details of which may be found in Volume XLV. of the Bulletin of the National Association of Wool Manufacturers. The course of the wool market is portrayed in the extracts from the reports of London and Liverpool dealers which follow:

LONDON SALES, 1915.

Of the London sales, of which there were eight series, Messrs. Helmuth Schwartze & Co. say:

The first series of London sales of Colonial wool, which commenced on the 19th January, closed February 6:

These sales have witnessed a marked rise in values. At the opening merino grease showed an advance of fully 5 per cent over December closing rates, while scoureds were from par to 5 per cent dearer. But prices did not long remain at this level; for the home contingent had very large forward contracts to cover, and prices were still further stimulated by orders from France and Russia as well as from America and other neutral

countries, the government having at length agreed, in principle, to the export of merino wool, under proper guarantees as to final destination. American buyers especially operated very freely and bought fine weft wools as well as warp. At the close the best greasies are fully 10 per cent, the bulk of merino grease from 15 to 20 per cent and scoureds 10 per cent above December level. A feature of this series is the decided appreciation of fine wools, in marked contrast to last series when fine, medium and ordinary merinos were much the same value.

Among crossbreds the finer qualities were not in very large selection, and sold at from par to 5 per cent advance as compared with the previous sales. Medium and coarse crossbred, after fluctuating slightly during the course of the sales, have maintained their position and close, as they opened, $7\frac{1}{2}$ per cent above December values.

Capes, both grease and scoured, opened at from par to 5 per cent advance, but stiffened as the sales proceeded. Greasies are now 10 per cent above December, while snow whites have leapt up since the opening and are now mostly 20 per cent dearer than at the close of last series.

The record of the prices at this and subsequent sales of some of the principal wools will be found in the table at the close of these comments.

The second series of London sales of Colonial wool commenced February 23 and closed March 5:

There has again been a very decided rise in values. With a large American contingent buying freely and with French, Russian and neutral orders in the market prices have tended upwards from the commencement and for good merino wool we are now fully up to July level, and very nearly on a par with the record prices of December, 1899.

At the opening merino grease ruled at from 5 to $7\frac{1}{2}$ per cent advance on the previous sales, while scoureds were 5 per cent dearer, but a further hardening took place almost immediately and continued right up to the close, with the result that good grease is now 15 per cent, medium fleece and pieces 10 to 15 per cent, the best scoureds 15 to 20 per cent, and inferior scoureds 10 to 15 per cent over last series.

Crossbreds opened with a rise of a halfpenny all round, and at the close the finer wools may be quoted 5 per cent, medium and coarse $7\frac{1}{2}$ to 10 per cent higher.

Cape wool opened with an advance of about 5 per cent, but here too prices hardened further and grease is now 10 per cent, snow whites fully 10 per cent, dearer than in the previous sales.

The third series of London sales of Colonial wool commenced March 16 and closed March 31:

There was a good attendance of the home trade and a few American and French buyers were present. The continued delay in obtaining permits for the export of merino wool, the great congestion in the warehouses and on the railways, and the difficulty of obtaining proper combing facilities have made themselves felt as they were bound to do, and there has been a considerable drop from the extreme prices of last sales.

Medium greasy fleece opened at from par to 5 per cent decline, but is now from 5 to $7\frac{1}{2}$ per cent lower.

The best scoureds, which sold for a time well up to last sales' level, are now often 5 per cent easier, medium scoureds are $7\frac{1}{2}$ per cent lower.

Crossbreds have continued their upward movement under the strong khaki demand, and, though some slight weakness was apparent at the close, the finer wools are still $7\frac{1}{2}$ per cent, medium and coarse from $7\frac{1}{2}$ to 10 per cent over last series' level.

In Australia, droughty conditions are again becoming more general; Queensland has, so far, not had the usual monsoonal rains and both there, in Victoria, and in the greater part of New South Wales, the situation is regarded as disquieting.

The fourth series of London sales of Colonial wool, which commenced April 27, closed May 20:

There was a full attendance of the home trade and a few French and American buyers were present, while large Russian orders were also in the market.

Greasy merino of good staple opened on a par with the close of the previous sales, weakened in the middle of the series but then recovered and is now nearly 5 per cent dearer. The best scoureds also opened on a par with March but are now fully 5 per cent up. Shorter stapled greasies and medium wools in general showed a decline at first of 5 per cent, and later of 10 per cent, from March level but recovered entirely and are now quite on a par with the previous sales. Inferior faulty wools, both grease and scoured, opened with a fall of fully 5 per cent, declined further to 15 per cent, and even at the close are still about 10 per cent easier.

Lambs were rather neglected and sold at from 5 to 10 per cent decline.

Among crossbreds the finer qualities were at first 5 per cent easier but are now fully up to the close of the previous sales, and often even dearer. Medium and coarse wools were at first 10 per cent, later on 10 to 15 per cent easier, but have recovered their position and now rule also fully on a par with March close.

The fifth series of London sales of Colonial wool, which commenced on June 29, closed July 24 :

The bulk of the offerings were absorbed by the home trade and at the beginning of the fourth week it became evident that the task was proving almost too much and that the financial strain was likely to cause a considerable break in values if wool continued to be offered. Under the circumstances the importers decided to close this series, leaving the remainder of the available wools to be carried forward to the next series.

These sales have witnessed very considerable fluctuations in values. At the outset good greasy merinos were from $7\frac{1}{2}$ to 10 per cent, the best scoureds about 5 per cent, and pieces generally from par to 5 per cent, dearer as compared with the close of the previous series. For a time prices hardened steadily and at the highest point of the series good greasy fleece and the best scoureds were from 10 to 20 per cent, and greasy pieces $7\frac{1}{2}$ per cent dearer than in May, while short scoured pieces were on a par with last sales. In the third week prices began to give way and the downward movement continued almost to the end, though the last few days of the series saw some recovery and a better tone all round.

In crossbreds there have been great fluctuations in prices. The finer sorts opened with a rise of $7\frac{1}{2}$ per cent, hardened for a time to 10 per cent, and at the close are still 5 per cent over May. Medium and coarse wools began with a rise of fully 5 per cent and hardened to $7\frac{1}{2}$ per cent over last sales, but have given way very considerably and are now 5 per cent below May level.

The sixth series of London sales of Colonial wool commenced September 7 and continued through October 1 :

There was a fair attendance of the home trade and a few American and French buyers as usual, while orders for Russian and Italian account were also in the market.

One of the principal features of these sales has been the line of cleavage established between wools of good staple and the shorter and inferior classes. Good greasy combing opened on a par with July closing rates but hardened under the continued keen demand, and stands at the close 5 per cent over last sales. Medium grease of fair length is also rather dearer, say par to 5 per cent over July level. The best scoureds, under the stimulus of Russian requirements, are a full 5 per cent over July. On the other hand, the bulk of medium scoureds are about 5 per cent lower, while all short and inferior wools, both grease and scoured, which opened at about 5 per cent decline, have shown some further weakness and at the close are difficult of sale at from 5 to 10 per cent below July values.

Crossbreds opened with a rise of 5 per cent all round, and the finer sorts have maintained this level to the end. Medium and coarse wools of stylish appearance are also 5 per cent dearer, but ordinary styles have hardly held their position, and now stand at about July closing rates.

The seventh series of London sales opened October 26 and closed November 18:

There was a fair attendance and a few American and Continental buyers were present.

Good merino grease opened well on a par with the previous sales and crossbreds opened with a rise of 5 per cent. Slipes opened with a 5 per cent rise and still further improved during the sales. Cape grease was not well represented and prices are nominally unchanged. Four thousand five hundred bales of Punta Arenas and Falkland Islands wools were sold at full 5 per cent advance on September prices.

The sales closed with prices 10 to 15 per cent higher than at the last series.

The eighth and last series for 1915 opened December 7 and continued through December 23, during which time 95,000 bales of first hand wools were disposed of. Ten thousand bales were carried forward to the next series:

Merino grease opened at from 5 to $7\frac{1}{2}$ per cent dearer and closed at from 5 to 10 per cent over November values.

The selection of crossbreds was disappointing but opened with about the same advance as merinos and closed at 10 per cent advance over November prices.

Slipes ruled at 5 to $7\frac{1}{2}$ per cent over November sales and Cape grease showed about the same advance.

The following statement shows, in bales, the supplies and deliveries of Colonial wool as compared with the season of 1914:

London Market.	1915.	1914.
Supplies :		
Held over from December	20,000	15,000
Net imports	1,056,000	770,000
	<hr/>	<hr/>
	1,076,000	785,000
Sales :		
Home Consumption.....	903,000	530,000
Continental “	86,000	172,000
American “	77,000	63,000
	<hr/>	<hr/>
Total sold of first-hand wools,	1,066,000	765,000
	<hr/>	<hr/>
Held over.....	10,000	20,000

The sales at each of the series were as follows :

LONDON SALES — SERIES OF 1915 — BALES.

Available.	Sold to —				Total Sales.	Held Over.
	England.		Continent.	America.		
	Bales.	Bales.	Bales.	Bales.		
Jan. 1, 1915.....					.....	20,000
Jan. 19–Feb. 7...	163,000	121,000	3,000	15,000	139,000	17,000
Feb. 23–March 6..	90,000	57,000	5,000	16,000	78,000	12,000
March 16–31.....	144,000	109,000	12,000	5,000	126,000	18,000
April 27–May 20..	220,000	163,000	20,000	5,000	188,000	32,000
June 29–July 24..	244,000	152,000	15,000	5,000	172,000	72,000
Sept. 7–Oct. 1....	194,000	124,000	7,000	15,000	146,000	48,000
Oct. 26–Nov. 18..	138,000	90,000	13,000	12,000	115,000	23,000
Dec. 7–23	105,000	80,000	11,000	4,000	95,000	10,000
	896,000	86,000	77,000	1,059,000		

¹ 7,000 bales sold at private sale.

Adding the transit wools and direct imports, the total deliveries to the trade for this year and last compare as follows :

TOTAL SEASON.

	1915.	1914.
	Bales.	Bales.
Home Consumption.....	1,923,000	968,000
Continental	212,000	1,689,000
American	551,000	169,000
Total.....	2,686,000	2,826,000

This statement is a remarkable illustration of the effect of the war on the wool trade of the world. The British home consumption increased 955,000 bales, and American (United States and Canada) 382,000 bales over the previous year, while the Continental consumption fell off 1,477,000 bales, or 140,000 bales more than the increase in Great Britain and America.

Australian shipments were about 175,000 bales less, while the production decreased about 200,000 bales. River Plate imports fell off about 28,000 bales and 30,000 bales were held back. Cape imports increased about 20,000 bales.

LIVERPOOL EAST INDIA WOOL SALES.

From Messrs. Hughes & Isherwood reports of the Liverpool East India wool sales for the series of 1915 the following comments are extracted :

FEBRUARY 11, 1915.

The first series of this year's auctions took place from 3d to 5th instant inclusive, and was restricted to 17,480 bales of new arrivals. We were, of course, without any Continental or American support, but the home trade was here in full force and evidently in urgent need of wool for the government orders which are taxing its resources to the utmost. Competition thus showed great animation and a general rise of 5 to 10 per cent was at once established. On the second and last days the market developed further strength, with the result that the advance became 10 per cent all round. The only exception was in the case of bright Fazilka Yellows, of which the earliest arrivals of the new clip now made their appearance. In the complete absence of support from Continental buyers—who in normal times absorb practically all of them—it had been generally feared that they would, to a large extent, prove to be unsaleable. Fortunately, however, they turned out to be both cleaner and much less burry than usual, and so home buyers were able to find a use for them—taking practically the whole of them at prices almost equal to those paid for the same wools in the earlier part of last year.

The position of East India wool generally is to-day clearly sounder than it has been for more than six months, as all told there are now only 5,750 bales left in first hands. The total visible now amounts to 43,400 bales.

MARCH 18, 1915.

The second series of this year's auctions took place from 10th to 12th instant inclusive, the total of 17,506 bales being catalogued. Owing to the congested state of the port the getting ready of even this quantity was a matter of considerable difficulty. We are still without any United States support, but Canada sent a few orders and there was a very limited amount of buying for France, to mills in which country—if they send indisputable evidence that the wool is to be used solely in execution of orders for the French government—permits to ship can, after much difficulty and delay, now occasionally be obtained. The home trade, however, was again present in full force, and included some buyers who had never been here before. They continue as busy as ever on work for our own and our allies' governments; and, from start to finish, bid with great keenness for almost all classes of stock.

APRIL 22, 1915.

The third series of auctions took place from 14th to 16th instant inclusive, the total of 16,422 bales being catalogued, this — owing to the congestion that still prevails here — being all that it was possible to get ready in time. Shipments to the United States are, of course, prohibited, and once more we had no French buyers here, so that competition was again wholly confined to that forthcoming from home users.

The highest figures touched for 1st White Vicanere were 16 $\frac{1}{4}$ d. to 17d. (or $\frac{1}{2}$ d. less than in March) and for Joria — excluding two or three exceptionally choice lots which made from 18d. to 18 $\frac{3}{4}$ d. (record figures) — 17d. to 17 $\frac{3}{4}$ d., a gain of $\frac{1}{2}$ d. per pound. The best Fazilka Yellows realized 9 $\frac{3}{4}$ d. to 10 $\frac{3}{4}$ d., and the better Beawars 9d. to 9 $\frac{1}{4}$ d., poorer lots of each of these growths being with difficulty saleable at $\frac{1}{2}$ d. less, and some quantity of each being left unsold.

The fourth series of auctions took place from June 1 to 4 inclusive, when a total of 22,255 bales were catalogued, but the number was subsequently reduced to 21,969 bales. The Continent sent orders for about 100 bales and about 150 bales were taken for America. Home users took in all some 20,700 bales. White wools were in only moderate supply, and choice Vicanere, Harnai, and Bubruck were quite 5 per cent dearer.

JULY 21, 1915.

The fifth series of this year's auctions took place from the 13th to 16th instant inclusive, 23,224 bales in all being catalogued. America is still prevented from buying, and, apart from 200 bales which were taken for the Continent, we again had to depend on the support of home users. Specially soft lots of White Candahar opened 7 $\frac{1}{2}$ to 10 per cent dearer and maintained the greater part of this advance right up to the close. True-bred Joria only offered a moderate selection and values ruled in buyers' favor, this being most noticeable in the case of undermarks. Good blacks and grays started firmly, but subsequently eased, and were a shade cheaper at the finish, while ordinary lots were 5 per cent cheaper than in June.

No report has been received of the sixth series of sales, but of the seventh series which occupied from the 19th to the 29th of October it is said that the War Trade Department announced that not more than 10,000 bales would be allowed to go to America and that blacks, browns, grays, ginned wool and low and medium hard blanket whites would not be allowed to be shipped. Apart from the above named classes prices averaged a rise of 7 $\frac{1}{2}$ per cent.

In a later statement it is reported that the ruling in regard to the selling of wool to America had been modified and that under certain conditions Americans would be unrestricted except as to the purchase of grays, fawn, brown, and blacks which will not under any circumstances be allowed.

Messrs. Buxton, Ronald & Co. in their valuable Review of the wool year October 1 to September 30, inclusive, present many interesting and valuable facts concerning the conditions and course of the London market, from which the following extracts are taken :

Sales. — Auctions on eight occasions during the twelve months closing September 30 have disposed of 947,000 bales, distributed thus :

Home Trade.	Continent.	United States.
<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
823,000	68,000	56,000

leaving about 47,000 bales to go forward to the next wool year.

In addition to the above some 12,000 bales, principally New Zealand slipes, were sold privately to the home trade during the first two months of the period under review.

Prices :

Merinos	are now about 15% higher than a year ago.
Crossbreds, Fine qualities	" " " 15% " " " " "
" Medium "	" " " 30% " " " " "
" Coarse "	" " " 30% " " " " "

The above results have been arrived at after many, and at times, pronounced fluctuations. The war has brought about exceptional circumstances with an altering situation from almost day to day, and the wonder is that market changes have not been greater.

That crossbred wool should have brought such long prices is not surprising, looking to the huge khaki orders which were soon seen to be inevitable. More surprising features have been the way in which good merinos have asserted themselves, and the manner in which faulty lots have been saleable was quite unlooked for, indeed it seemed at one time as if these would be unmarketable from want of continental competition. That the difficulties in connection with the handling of these sorts were successfully dealt with in the past season need not be taken as a sign that all will be plain sailing during the coming one. More washing and carbonizing machinery will be wanted and a freer outlet found before the future of these wools can be regarded as in any way assured. One thing only seems certain, and that is

that owing to the bad season in Australia the supply of really good combing merinos will be extremely limited. In any case the uselessness of prophecy has been more than ever exposed by the war, and we must be content to wait and see what is going to happen rather than to indulge in estimates which may turn out to be entirely wrong. . . .

The working of the auctions has been throughout difficult, but merchants, brokers and buyers have recognized that their interests were best secured by acting in harmony with the warehouse-keepers, above all by showing consideration for the Port of London Authority in the difficult problem with which it was faced. To this end catalogues have now been limited to 8,500 bales a day, and Monday sales have for the time being been eliminated.

MERINO.

Supply. — The quantities catalogued were as follows:

Descriptions.	1915.	1914.	1913.	1912.	1911.
	Bales.	Bales.	Bales.	Bales.	Bales.
Australian	540,500	349,000	347,500	431,800	448,700
New Zealand	14,100	20,400	20,100	27,400	27,900
South African	43,800	17,700	35,200	43,000	45,100
Total	598,400	387,100	402,800	502,200	521,700

Australasian. — The outstanding feature was, of course, the keen demand for stout warp wools free or without a very appreciable amount of burr. Prices rose consistently throughout the season and some long figures were paid at one time by the French government and then more latterly by Bradford houses. The best scoureds were much in request from Russia and here again some extreme figures were paid. The supply of bulky wools, however, was limited. Several clips fresh to this market figured in the catalogues during the course of the twelve months, and it is sufficient to say that the prices realized could not have disappointed the owners who from the force of circumstances went past their customary market.

South Africa. — Forty-three thousand bales were catalogued as against 17,000 bales in the preceding twelve months. Considering all the circumstances the increase might have reasonably been expected to be greater. Growers, however, were evidently anxious to realize at an early opportunity and did not avail themselves of the offer by their government of financial assistance until times improved. The clip as a whole was not good. Altogether a very poor show was made by South African growers.

The market for combing wools may be briefly described as having been on a rising scale throughout the year. Shabby supers on the other hand lacking continental competition were always hard to sell. The right course now would appear to be to limit the output of this class of wool until more washing plant is available. The fleeces should be allowed to grow the full twelve months wherever possible.

Prices ranged as follows :

SERIES.	WESTERN CAPE.		ALGOA BAY.		EAST LONDON.		ORANGIA.
	Grease.	Scoured.	Grease.	Scoured.	Grease.	Scoured.	Grease.
1914:							
November . .	d. 10 — 11	d. 22 — 23	d. 8½ — 9	d. 20½ — 21½	d. 7½ — 8½	d. 20 — 21	d. 8 — 9
December . .	9 — 9½	18½ — 19½	7 — 7½	17½ — 18	6½ — 7½	17 — 18	7 — 8
1915:							
January . . .	10 — 11	22 — 23	8½ — 9	21 — 22	8 — 8½	20 — 21	8 — 9
February . . .	11 — 12	25 — 26	9 — 10	23 — 24	9 — 9½	23 — 24	9 — 10
March	11 — 12	25½ — 26½	9 — 10	23 — 24	9 — 9½	23 — 24	9 — 10
May	11 — 11½	26 — 27	8½ — 9½	23½ — 24½	8½ — 8½	23 — 24	8½ — 9½
July	11½ — 12	26 — 27	8½ — 9½	23½ — 24½	8½ — 9½	22½ — 23½	9½ — 9¾
September . . .	12 — 12½	26 — 27	9 — 9½	23 — 24	8½ — 9½	21½ — 22½	9½ — 10

CROSSBREDS.

Supply. — The quantities catalogued from Australasia, allowing for some 12,000 bales sold privately, show only a slight increase, a larger proportion than usual of New Zealands having been sold direct.

Descriptions.	1915.	1914.	1913.	1912.	1911.
	Bales.	Bales.	Bales.	Bales.	Bales.
Australian	107,000	49,300	55,600	74,000	59,600
New Zealand	314,000	358,700	352,000	395,600	380,000
Totals	421,000	408,000	407,600	469,600	439,600

As a direct consequence of the war crossbreds commanded higher prices than for years past. Under ordinary circumstances and as the result of booming trade the level of values could not fail to have given complete satisfaction, but tempered as it was with the special emergency of the case, probably other sentiments than those of the mere question of price were in most instances called into play.

Sliped Wools. — The amount actually catalogued in public sale shows a decrease of about 7,000 bales. However, the fact must not be lost sight of that about 12,000 bales were sold privately and some thousands of bales held over from the last sales — which would probably give a total slightly exceeding the high figure of 1913, and only a little below last year's record. As mentioned above, the demand all through, with the exception of the September sales, was most keen and resulted in easily the highest prices in the history of slipes being paid. From November prices were on the up grade till the early part of the July sales, when the highest point was reached. A reaction then set in, which was intensified during the September sales.

1915.	1914.	1913.	1912.	1911.
Bales.	Bales.	Bales.	Bales.	Bales.
¹ 49,000	² 56,000	75,000	70,000	60,900

¹ Exclusive of about 12,000 bales sold privately.

² Exclusive of about 26,000 bales sold privately.

AUSTRALIAN 60s TOP.

The following are the quotations for an average super 60s top as reported by Messrs. Buxton, Ronald & Co. for the past four years :

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
1912	24	24	24	24	25	25	26	26	26	26	27	28 $\frac{1}{2}$
1913	28	29 $\frac{1}{2}$	29 $\frac{1}{2}$	29 $\frac{1}{2}$	29 $\frac{1}{2}$	29	28 $\frac{1}{2}$	28 $\frac{1}{2}$	28 $\frac{1}{2}$	28	27 $\frac{1}{2}$	26
1914	27	28 $\frac{1}{2}$	29	29	30	30 $\frac{1}{2}$	30	30	26	30	30 $\frac{1}{2}$	25
1915	25 $\frac{1}{2}$	28	31 $\frac{1}{2}$	31 $\frac{1}{2}$	34	42	43	39 $\frac{1}{2}$	38	36		

RIVER PLATE WOOLS.

Our records for the River Plate are particularly meager. The report of Messrs. Wenz & Company, containing their estimates of the shipment and the production of Argentine and Uruguayan wools is lacking, but by the courtesy of Messrs. Hartmann Brothers of Boston, we have a report by Mr. Hamilton Coffey of Buenos Aires, giving the shipments for a twelve months'

period for a series of years. Messrs. Wenz & Company's reports cover only what they call the "wool year"—that is, from July 1 to May 1 of the succeeding year. Mr. Coffey's figures are for the twelve months ending September 30 in each year, and for the year 1915 in the following table his figures are used, although not directly comparable with the rest of the table.

Although only 2,000 bales are reported as being shipped to Havre, in France, 46,346 bales were sent to Bordeaux and Marseilles, ports to which only a few thousand bales are usually forwarded. Italy also is charged with 92,394 bales, or 17,000 bales more than she took in the preceding ten years. The United States shipments also have increased from an average of 30,000 bales for the ten previous years to 118,000 bales in the year just closed.

SHIPMENTS OF RIVER PLATE WOOLS BETWEEN JULY 1 AND APRIL 30
SUCCEEDING, 1905 TO 1915 INCLUSIVE.¹

In thousands of bales.

Year.	Dunkirk.	Havre.	Antwerp.	Hamburg. Bremen.	England.	United States.	Italy.	All Other.	Total.	Of which from Monte- video.
1905	135	6	50	129	28	41	3	27	419	74
1906	140	24	50	134	36	30	4	28	446	84
1907	135	13	56	103	43	24	4	23	401	71
1908	127	16	54	94	45	14	5	14	369	64
1909	202	5	67	123	57	48	8	32	542	122
1910	134	13	56	115	33	31	9	31	422	107
1911	125	5	49	112	49	18	8	31	397	87
1912	94	5	56	112	47	26	9	26	375	105
1913	94	6	47	121	70	28	14	35	415	135
1914	93	10	52	108	44	41	12	42	402	117
1915 ²	2	.....	.....	78	118	93	86	377	73	

¹ Wool circular of Wenz & Co., Reims, May, 1914.

² Report of Mr. Hamilton Coffey, Buenos Aires.

The next table contains a statement of the production of River Plate wools for a period of twenty years, beginning October 1, 1895, and closing September 30, 1915.

WOOL PRODUCTION OF ARGENTINA AND URUGUAY.

SEASON (October 1 to Septem- ber 30).	ARGENTINA.			URUGUAY.			GRAND TOTALS.		
	Quan- tity.	Ave. weight, Bales.	Total weight.	Quan- tity.	Ave. weight, Bales.	Total weight.	Quan- tity.	Ave. weight, Bales.	Total weight.
1895-96.....	443,0	380	168,3	100,0	466	46,6	543,0	396	214,9
1896-97.....	486,0	412	200,3	88,0	466	41,0	574,0	420	241,3
1897-98.....	495,0	417	206,5	90,0	466	42,0	585,0	424	248,5
1898-99.....	487,0	425	207,2	81,0	469	38,0	568,0	431	245,2
1899-00.....	465,0	429	199,4	85,0	470	40,0	550,0	435	239,4
1900-01.....	405,0	445	181,0	86,5	471	40,8	491,5	451	221,8
1901-02.....	444,0	445	197,6	86,0	470	40,4	530,0	449	238,0
1902-03.....	481,0	412	198,4	104,0	471	49,0	585,0	422	247,4
1903-04.....	416,0	420	174,7	86,0	470	40,4	502,0	428	215,1
1904-05.....	411,0	417	171,2	82,5	472	38,9	493,5	425	210,1
1905-06.....	395,0	417	165,0	90,5	450	40,7	485,5	423	212,9
1906-07.....	389,0	417	162,2	99,0	454	44,7	488,0	424	206,9
1907-08.....	427,0	417	178,0	110,0	460	50,6	537,0	426	228,6
1908-09.....	438,0	415	182,0	126,0	459	57,8	564,0	425	239,8
1909-10.....	359,0	413	148,4	123,0	458	56,4	482,0	424,8	204,8
1910-11.....	394,0	409	161,0	134,5	458	61,6	528,5	421	222,6
1911-12.....	361,0	409	147,7	155,5	458	71,2	516,5	424	218,9
1912-13.....	310,0	407	126,0	142,0	458	65,0	452,0	409	185,0
1913-14.....	306,0	417	127,6	119,0	466	56,0	425,0	432	183,6
1914-15.....	314,0	381	119,5	104,0	436	45,0	418,0	394	164,5

Add for local consumption, 1912-13, 16,800 bales; 1913-14, 14,500 bales, and 1914-15, 10,000 bales.

a. Two 00 omitted, thus 443,0 = 443,000. b. Kilo equals 2.2046 pounds.
c. Metric ton equals 2,204.6 pounds.

Messrs. Wenz & Co. write :

The statistics of production in the Argentine Republic and Uruguay, always difficult to establish in normal times, have been even more so this year, as we have had to evaluate the approximate amount of wool held in store here by German firms.

What strikes us both as regards the Argentine and Uruguay is the very sensible decrease in the average weight per bale. As far as the Argentine is concerned we can only suppose that part of the wools that came from the southern territories were reshipped in the original bales of about 200 kilos.

In Uruguay the decrease is mainly due to the increased quantity of crossbred wool, which does not make such heavy bales, but even with that the decrease seems abnormal.

The following tables present the imports into the United States of these wools for a series of years. It will be noticed that they have very largely increased especially from Argentina, where the imports of Class I wools have grown from 36 to 67 millions of pounds as compared with last year, and those of Class III have almost doubled.

IMPORTS OF ARGENTINE WOOLS INTO THE UNITED STATES FOR THE YEARS 1905-1915 INCLUSIVE.

Fiscal Year.	Class I.	Class II.	Class III.	Total.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1905.....	41,094,617	362,562	41,094,617	47,695,567
1906.....	36,352,480	.....	5,815,447	43,167,927
1907.....	19,247,683	94,866	3,852,659	23,195,208
1908.....	14,311,508	.....	1,909,787	16,221,295
1909.....	51,601,420	106,239	6,672,175	58,379,834
1910.....	27,331,068	37,799	3,713,317	31,082,184
1911.....	14,014,295	96,326	3,780,755	17,891,376
1912.....	23,049,591	.....	4,572,037	27,621,628
1913.....	24,393,428	.....	2,349,156	26,742,584
1914.....	36,301,837	396,980	5,577,725	42,276,542
1915.....	67,076,718	90,212	10,641,323	77,808,041

IMPORTS OF URUGUAYAN WOOLS INTO THE UNITED STATES FOR THE FISCAL YEARS 1905-1915 INCLUSIVE AS SHOWN BY REPORTS OF UNITED STATES DEPARTMENT OF COMMERCE.

Fiscal Year.	Class I.	Class II.	Class III.	Total.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1905.....	7,044,752	619,377	76,180	7,740,309
1906.....	5,083,195	.....	3,995	5,807,190
1907.....	5,856,437	.....	174	5,856,611
1908.....	1,604,221	.....	.....	1,604,221
1909.....	5,759,852	.....	108,380	5,868,232
1910.....	8,768,627	.....	21,158	8,789,775
1911.....	711,525	.....	.....	711,525
1912.....	3,125,759	.....	91,229	3,216,988
1913.....	3,537,824	.....	181,049	3,718,873
1914.....	11,639,243	41,949	1,336,526	13,017,718
1915.....	16,561,154	18,334	18,135	16,597,623

DALGETY'S REVIEW.

Following our usual practice we present numerous extracts, though not always in the original order, from the admirable Review of Messrs. Dalgety Company and also continue various tabular statements to date.

THE YEAR IN AUSTRALIA.

The Australian clip as a whole came to market showing unmistakable signs of the adverse seasonal conditions under which it had been grown, being thinner, and more dusty than in normal times, besides containing a larger proportion of tender wool. There were, however, exceptions to this rule, notably the wools from the New England District of New South Wales. As was expected, the volume of the clip was considerably below that of its predecessor. . . .

The oversea exports of wool during the statistical year ending June 30, amounted to 1,575,688 bales from Australia, and 562,014 bales from New Zealand, the former being a decrease of 390,888 bales, as compared with the preceding year, and the latter an increase of 1,127 bales. The true position, however, is not so bad as these figures would lead one to suppose, because to arrive at the true production it is necessary to add the 66,000 odd bales of wool absorbed by the woollen mills in Australia, an amount considerably in excess of last year, whilst it is estimated that there were close on 200,000 bales more on hand in Australia than at June 30 last. The actual production of wool for the year in Australia can be set down at 1,840,688 bales, and in New Zealand as 580,609 bales, a total for Australasia of 2,421,297 bales, which makes the actual shortage in production, as compared with the previous year, 217,983 bales.

From the buyers' point of view the year has been a remarkable one. The practical elimination of continental markets caused unprecedented activity in Great Britain where every comb, spindle, and loom has been going at the highest possible speed night and day for months past. This phase of the trade is highly satisfactory. The year has also witnessed a wonderful expansion in the American demand, which has accounted for 15 per cent of all the wool sold in Australasia, as against only 6 per cent last season.

DIFFICULTIES AND DRAWBACKS.

The year, however, has been fraught with difficulties and the trade has had to face not only a complete alteration in the channels of business, but also high insurance, high freights, and erratic arrivals of raw material. Owing to the disappearance of the entire German mercantile marine, and the heavy demands upon the remaining shipping for the transport of troops, the

number of vessels available for carrying wool has been totally inadequate, and the abnormal rise in freights has been due principally to these causes. The rates of freight have steadily risen throughout the year, and are now 1 1/8d. per pound for greasy wool, and 1 1/4d. per pound for scoured, plus a surtax of 20 per cent in both cases compared with 3d. and 7/8d. respectively which were current a year ago, without the tax, and which were regarded at that time as abnormally high. The exchange on wool drafts has been 25/- per cent for the principal part of the wool year as against the 32/6 per cent current during the same period of the previous statistical year.

RESTRICTING OFFERINGS.

However infinitely regrettable the circumstances which compelled its adoption, the practical recognition by the wool-selling trade of Australia of the value of the principle of regulating wool offerings, and the wonderfully good results which were brought about by a scheme of limiting supplies, has afforded gratification to those who have, in season and out of season, urged a more common-sense method of handling wool than has hitherto obtained. . . .

THE PASTORAL OUTLOOK.

From a pastoral and agricultural standpoint, the year has been a disastrous one in Australia. An appalling drought, which did not break until well into May, has greatly reduced the flocks of the country. The losses have been doubly severe in that the worst of them did not occur until the cold break up of the drought by which they were caused, when the capital value of every sheep had been greatly increased by the cost of keeping it alive. These remarks are not applicable to New Zealand, where the output of wool and mutton has been well above the average, as have values for these staple products. . . .

The aftermath of the drought is, unfortunately, still with us. The rains did not come until the cold weather had set in, and the resultant growth of grass has as a consequence been most disappointing. Furthermore, the extreme dearness of fodder forced sheep owners to be content to keep their sheep alive, not to keep them in good condition, so that the bleak weather which accompanied and followed the rain found the flocks in low condition, and caused very heavy mortality. The rain, of course, came too late to save the growing wool clip, which will inevitably be short, thin, and hunger-fine, whilst the proportion of tender wool will be very great. It is estimated that fully ten million sheep have died since the 1st of January, 1914, and this loss, coupled with the certain decreased cut per head, will result in a serious shortage in production, which may reach the appalling figure of half a million bales.

THE WAR AND THE WOOL MARKET.

The effect of the war on the wool trade was immediate and startling. With the shadow of war resting on the world of finance, commerce, industry, and politics, the delicate system of international credit went to pieces. The "terme" markets of Antwerp and Roubaix fell sensationaly, and within a week both were closed. Though financial dangers were obviated by the operation of the moratorium, the Yorkshire trade during the black week which followed the outbreak of war was in a state of utter stagnation.

The magnitude of the calamity hung like a pall over everything and bewildered everybody. Ruin seemed to confront the industry. Germany owed Bradford £1,750,000 for yarns alone. The coolness of the West Riding at this juncture was a fine thing, and was the more remarkable by reason of the fact that this section of the trade had reduced pessimism to a fine art and now had an unrivalled opportunity of indulging the hobby to its heart's content, but did not do so. At a memorable meeting on the Bradford Exchange on August 6 it was shown that manufacturers' first duty to the country was to save its workpeople from starvation by keeping the mills running, even at a loss, and the trade, to its eternal credit, shouldered the responsibility, and so the first great danger was overcome.

MONTH BY MONTH.

The change in the outlook for Yorkshire in September and October was unparalleled. From stagnation to furious activity was but the step of a few weeks.

In October the government bought the whole stock of gabardines in Yorkshire, and so threw open another big channel for trade. The upward movement in prices continued throughout the month. Never before had Bradford been so bare of stocks, and the trade was confirmed in the prices it was paying by the certainty that spot supplies would be limited for many weeks to come. Generally speaking, thick yarns were being used, and this meant big requirements, and, with hundreds of mills running night and day, the consumption of raw material became enormous. The market was forced up by several firms, who were at their wits' ends for wool, and who had to buy at any price. So insistent did the demand become that, at this juncture, the better class of shoddy was actually dearer than good, well-grown mohair, which was one of the strangest of the many anomalies produced by the war.

November was the same as October; the whole of the West Riding a hive of unprecedented industry, the mills going night and day on army contracts; Huddersfield was turning out two hundred and fifty miles of khaki serge a week.

So urgent was the need for a great production of khaki in November that labor had to be imported from the depressed cot-

ton districts of Lancashire. Yet the output, which was prodigious, did not satisfy the needs of the War Office, and, in the middle of the month, the Board of Trade circularized manufacturers, asking the following questions :

- (1) What kinds of army cloth can you produce?
- (2) What is your present weekly output, and how far is this for War Office contracts ?
- (3) To produce this output are all machines working day and night ?
- (4) If they are not working day and night, what would be total weekly output obtained by working them day and night, and what additional labor would be required for this purpose ? The additional labor should be defined as exactly as possible.
- (5) What increase in plant and machinery is possible ?
- (6) If such increase were made, what would be the estimated total output and the additional labor required ?

More than one manufacturer was given to understand that Lord Kitchener was seriously concerned about the supply of army cloth, and was prepared to go the length of placing under direct military control any mills capable of producing it, in which it was found that the whole of the available was not being used for that purpose.

THE FORCES AFFECTING VALUES.

The foregoing discloses the forces which determined values throughout the season and the different situations which caused the fluctuations in our Australasian markets.

First in importance was the khaki orders which, becoming larger as the war progressed, caused a steady advance, and, finally, a veritable boom in crossbreds.

Second, the famous October series of sales in London, which gave us the basis of values for our opening sales in Australasia.

Third, the "bear" movement in November and December, which brought about the severe decline in the value of merino wool about that time.

Fourth was the removal of the embargo and the resumption of American buying, which, coupled with fresh big army contracts, caused the sensational rise in January and subsequent months.

Fifth was the congestion at the ports, on the railways, at the mills, and consequently difficulties of finance, which caused the easing of values in April.

Sixth, there was the revival in the home trade, and the possibility of another winter campaign.

MILITARY REQUIREMENTS.

The following table of figures shows at a glance the enormous quantity of wool required to clothe the armies of combatant nations, irrespective of neutral nations, and of the world's

ordinary requirements, which are expected to be upon an economical basis during a crisis such as the present.

Estimated number of troops equipped with woolen clothing is as follows :

Russia	8,000,000
France	4,000,000
British Isles	3,000,000
Italy	2,000,000
British Dominions.....	300,000
Belgium.....	100,000
Balkan States	1,600,000

	19,000,000
Germany, Austria and Turkey.....	11,000,000

Total (say).....	30,000,000

To equip each soldier with his outfit, including blanket, Dalgety's estimates would require 32 pounds of greasy wool and to supply them all the enormous total of 928,000,000 pounds of wool would be required and to furnish an extra outfit to one-third of the number in six months time who might be actively engaged would require 320,000,000 pounds more, a total of 1,248,000,000 pounds or one-half the world's annual production.

However conservative the basis of one's arguments, the fact remains that the huge extra consumption of wool owing to the war must result in supplies being quite inadequate to meet the world's demands. A readjustment of the position can only be brought about by wool becoming so dear as to make woolen clothing beyond the means of the masses, and so diminish the consumption, that both ends can be made to meet. The white peoples of the world, having accustomed themselves to woolen clothing, will be slow to give it up, so that there is every probability of famine prices ruling for raw wool as long as war lasts—prices much higher than those already reached. What will happen when peace is declared and the general clearing-up is commenced, it is impossible to foretell.

THE CONTINENTAL TRADE.

The French trade ceased to be a factor in the market for some months, that is to say, as far as the purchase of the raw material was concerned, and it was not until the New Year that they again entered the lists to any appreciable extent. By this time many mills in the South of France had begun to work, and the French government formed a combine for the purchase of raw wool.

Italy is probably the one continental country whose wool trade has benefited by the war. The Italian buying of merinos has been an important feature in the Australian markets this year, and there seems little cause to doubt that the wool trade in that country is an expanding one.

Germany.—It will be apparent to any one that the available information on the subject of the German wool trade is very meager, and that to fill up the gaps we are largely dependent on conjecture. However, despite the wall we have built, or are supposed to have built around Germany, her wool trade, though seriously impaired, is still extant. Despite the fact that her supplies were replenished by wholesale robbery of raw wool in France and Belgium, supplemented by the equivalent of probably 100,000 bales (Australasian size) bought in Buenos Ayres, and imported through Genoa, the wool industry in Germany is steadily being strangled by the want of the raw material. Her own domestic clip is inconsequential and could not materially affect the position one way or another, her total flocks being only between five and six millions.

CROSSBRED *vs.* MERINO.

Thirty years ago the Australian clip was almost entirely of merino growth; to-day, fully 20 per cent of the whole output is crossbred, and in the Southern States, which are best suited to crossbred sheep, the proportion of other than merino wool is more than half, and tends to become greater every year, not only in Victoria, Tasmania and the Riverina, but in other parts of Australia. This has been brought about principally by the rise and expansion of the frozen meat trade, and to a more limited extent by the unsatisfactory lambings from merinos, which were becoming the rule, and not the exception, in some districts.

The more prolific and payable crossbred sheep continue to displace the fine-wooled and more delicate merino. Woolbuyers, however, do not complain so much of the increase of crossbreds as of the ever smaller proportion of wool bred for quality amongst the merinos that remain. The fact is that the very fine-wooled merino does not give anything like the monetary return of the more robust animals, that produce a bulky fleece, which, if it realizes a little less per pound than the fine wool, easily wins in actual monetary return per head of sheep, the only true criterion for the practical sheepbreeder to work upon. If manufacturers really wish growers to breed fine-haired wool, they must be prepared to pay 5d. to 6d. per pound more for it than for the more bulky, if coarser, fleeces produced by the robust type of sheep.

YORKSHIRE THE PIVOT OF THE WOOL WORLD.

The German occupation of Rheims, Lille, Roubaix and Tourcoing in France, Verviers and Antwerp in Belgium, and Lodz in Poland, amounted almost to a coup-de-grace to the wool industries of those countries, and our allies were obliged to come to England for their wool requirements. With the embargo on exports to America, Yorkshire became in a manner the clearing house for the Australian, New Zealand and South African clips, from the

two former of which she had, in the previous year, taken only about 22 per cent.

SUSTAINED AUSTRALIAN ENDEAVORS NECESSARY.

Because Australasia leads the world in wool-growing, the excellence of the wools produced, and the preparation of same for market, and because of the obsolete methods still in vogue in most other countries, our sheep and wool men must on no account rest upon their oars.

Whilst over-classing, *i.e.*, dividing the clip into too many comparatively small lots is to be deprecated almost as much as not classing at all, it behooves our small as well as our large flock-masters to uphold the position which the pioneers of this country have so deservedly won.

The rolling of the fleece is an important matter, and should receive more attention than it does.

It is surprising how few men know how best to roll a fleece of wool; in fact, more fleeces come to market incorrectly than correctly rolled. The best system is to turn the breech end in about 12 inches, then the neck end only slightly. Turn one side in, say, 6 inches, bring the other side of the fleece right across to meet the turned-in edge of the other side, then bring in the double edge containing the back, and roll from the breech to the neck end. Do not twist the neck or any other part of the fleece, which should be carefully placed in the bin allotted to it. It is still necessary to impress upon growers the great desirability of seeing that the skirting of the fleeces, if done at all, is carefully supervised, and that any short yolky, black-tipped fleeces, which, happily, are fast disappearing from the best flocks, now that the Vermont blood has gone out of favor, be kept separate from those which are more shafty and better conditioned.

THE OUTLOOK FOR NEXT SEASON.

Although the official sheep numbers which are published herein disclose a decrease in the Australian flocks of only some 3,000,000 head, it must be explained that practically all of the returns show the position as at December 31 last, whereas it is well known that the past six months have been the critical period, during which most of the losses have taken place. After carefully collecting information from reliable sources in all parts of the continent, we are of the opinion that, as a result of the recent drought, the number of sheep and lambs to be shorn in Australia during the statistical year 1915-16 will be from 15,000,000 to 20,000,000 less than were shorn during the year just closed, which will show the drought to have been much more serious than during any previous twelve months, and that there will be a further decrease in the wool clip of fully 500,000 bales. The year to hold the unenviable record in connection with the devas-

tation of the flocks prior to the recent dry spell was 1902, the termination of the long drought, when the sheep flocks of Australia decreased from 72,000,000 to 63,000,000.

TABULAR STATEMENTS.

From this and previous reports the following statements and tables have been prepared:

NUMBER OF SHEEP AT CLOSE OF YEAR IN AUSTRALASIA, 1910-1914.

	1914.	1913.	1912.	1911.	1910.
New South Wales	36,287,000	39,842,518	39,436,118	45,032,022	45,825,308
Victoria	12,051,685	12,113,652	11,892,224	12,857,804	12,937,983
Queensland	23,129,919	21,786,600	20,248,580	20,387,838	20,153,239
South Australia	4,208,461	5,073,057	5,481,487	6,267,477	6,432,038
West Australia	4,471,941	4,418,402	4,593,458	5,408,583	5,157,658
Tasmania	1,862,600	1,862,600	1,800,000	1,788,310	1,735,000
Australia and Tasmania . . .	82,011,606	85,096,859	83,451,867	92,742,934	92,241,226
New Zealand	24,465,526	24,595,405	23,750,153	24,269,620	23,792,947
Total	106,477,132	109,692,264	107,202,020	117,011,654	116,034,173

The number of sheep estimated to have been shorn, including lambs, was 106,477,132 head, which produced 7.48 pounds of wool per head as against 7.87 pounds for the preceding year and 7 pounds in the year 1912-13.

PRODUCTION, EXPORTS AND SALES.

The actual production of wool available to the trade including 84,152 bales (27,649,423 pounds) used by Australian manufacturers and 200,000 bales still in storage for this and the previous year was:

	Bales.	Pounds.	Average Weight per Bale.
			Pounds.
1914-15	2,421,156	¹ 794,736,337	329.1
1913-14	2,597,463	849,828,667	327.2

¹ In another place Messrs. Dalgety & Co. state "the actual wool output" for the last season to have been 796,848,842 pounds.

The following tables show the Australasian wool exports and sales, the exports by states, and the principal countries of export:

AUSTRALASIAN EXPORTS AND SALES.

Season.	Total Exports.	Sales.	Sales to Exports.
	Bales.	Bales.	Per cent.
1898-9	1,664,517	890,185	53
1899-0	1,594,464	915,877	57
1900-1	1,609,713	808,912	50
1901-2	1,664,885	1,035,520	62
1902-3	1,440,722	861,174	60
1903-4	1,366,942	837,497	61
1904-5	1,595,734	1,092,651	68
1905-6	1,869,455	1,354,865	72
1906-7	2,090,188	1,537,798	74
1907-8	2,057,831	1,351,121	66
1908-9	2,288,104	1,657,906	72
1909-10	2,434,643	1,889,745	77
1910-11	2,468,750	1,865,167	76
1911-12	2,537,867	1,926,926	76
1912-13	2,247,265	1,804,801	80
1913-14	2,527,463	1,968,578	78
1914-15	2,137,702	1,544,797	72

AUSTRALASIAN WOOL EXPORTS BY STATES.

States.	1914-15.		1913-14.	
	Bales.	Pounds.	Bales.	Pounds.
New South Wales....	731,218	242,033,158	853,104	281,259,858
Victoria	391,626	118,662,678	486,976	152,301,744
Queensland	268,120	89,283,960	387,277	127,414,133
South Australia.....	101,536	31,476,160	152,930	46,031,930
West Australia	65,306	19,657,106	64,921	19,541,221
Tasmania	17,882	5,078,488	21,368	5,747,992
Commonwealth	1,575,688	506,191,550	1,966,576	632,296,878
New Zealand.....	562,014	197,266,914	560,887	194,627,789
Australasia.....	2,137,702	703,458,464	2,527,463	826,924,667

Decrease, 389,761 bales, or 123,466,203 pounds.

The distribution of purchases in Australasia in the past two seasons has been as follows:

AUSTRALASIAN WOOL SALES, DISTRIBUTION.

	1914-15.		1913-14.	
	Bales.	Per Cent.	Bales.	Per Cent.
United Kingdom.....	983,355	64	437,550	22
Continent.....	142,506	9	1,283,515	65
United States and Canada	234,896	15	115,196	6
Japan, China, and India	81,890	5	20,500	1
Local manufacturers, etc.	¹ 102,152	7	111,817	6
	1,544,799	100	1,968,578	100

¹ Includes 18,000 bales of Adelaide retained for scouring purposes.

THE AVERAGE WEIGHT OF FLEECE.

The following statement shows for a period of fifteen years the number of fleeces per bale and the number of bales to the 1,000 sheep:

Year.	No. of Sheep and Lambs ¹ Fleeces per Bale.	No. of Bales per 1,000 Sheep.
1900-1.....	55.88	17.89
1901-2.....	55.42	18.04
1902-3.....	51.36	19.46
1903-4.....	55.51	17.99
1904-5.....	52.70	18.97
1905-6.....	50.27	19.89
1906-7.....	49.65	20.13
1907-8.....	51.72	18.97
1908-9.....	47.79	20.92
1909-10.....	46.49	21.51
1910-11.....	47.	21.27
1911-12.....	44.37	22.54
1912-13.....	45.91	21.69
1913-14.....	41.56	24.06
1914-15.....	43.97	22.74

THE VALUE OF THE AUSTRALASIAN WOOL PRODUCT.

The total value of the 1,544,799 bales sold in Australasia during the past season has been £19,742,546 or an average of £12, 15s. 7d. per bale; and if that portion of the clip which has been sent

direct to London for sale has made a like average, the net gain in wealth to Australasia from wool alone will have amounted to

£30,942,158 for 1914-15, as compared with
 £32,001,324 for 1913-14,
 £30,684,531 for 1912-13,
 £29,581,874 for 1911-12,
 £31,588,936 for 1910-11,
 £33,128,496 for 1909-10,
 £25,950,912 for 1908-09,
 £26,768,952 for 1907-08, and
 £29,685,740 in 1906-07.

VALUE OF THE AUSTRALASIAN CLIP, 1891-1914.

Calendar Year.	Total Value Wool Exports.	Calendar Year.	Total Value Wool Exports.	Calendar Year.	Total Value Wool Exports.
	£		£		£
1891.....	24,063,227	1905.....	25,203,549	1910	31,588,936
1901.....	18,936,557	1906.....	29,685,780	1911	29,581,874
1902.....	16,109,026	1907.....	26,768,952	1912	30,684,531
1903.....	18,042,873	1908.....	25,950,912	1913	32,001,324
1904.....	21,796,096	1909.....	33,128,496	1914	30,942,158

FEATURES OF THE WOOL YEAR.

Outstanding features of the past year have been:

1. The great war, which revolutionized the wool trade in all its branches.
2. Heavy decrease in production owing to the drought in Australia.
3. Great quantity of wool taken by Great Britain and the United States.
4. The embargo upon the export of wool to all but the allied nations up till the end of December, after which it was permissible to ship merino wool under certain restrictions to the United States and Italy.
5. Preference shown for crossbred wool owing to the huge contracts for khaki placed in Great Britain, United States, Japan, Australia, etc., by the allied nations.
6. The rapid advance in values during the past six months.

SOUTH AFRICA.

In the absence of more recent information the following table showing the production for export for each year since 1900 is reproduced from our last year's Review. It will be seen that in thirteen years the South African clip has increased from 140,000 bales to 533,000 bales, an increase of no less than 295 per cent.

Year.	Bales.	Lbs.
1900 (war time).....	140,000	.....
1902.....	234,000	.....
1903.....	234,000	.....
1904.....	201,000	.....
1905.....	209,000	.....
1906.....	238,000	.....
1907.....	287,000	108,000,000
1908.....	276,000	101,000,000
1909.....	380,000	138,000,000
1910.....	376,736	125,000,000
1911.....	376,000	125,000,000
1912.....	463,000	157,761,470
1913.....	533,000	.....

This wonderful expansion as regards quantity is not all, for the length, breeding, quality, and value of the wool have improved in like ratio.

South African Flocks.

According to the report of the South African Department of Agriculture there were in the Union on December 31, 1912, 27,251,127 wooled sheep and 8,557,664 non-wooled, distributed as follows:

	Wooled Number.	Non-Wooled Number.
Cape	13,239,067	6,022,147
Transvaal	3,098,785	1,206,251
Orange Free State.....	9,409,656	1,034,266
Natal.....	1,503,619	295,000
	27,251,127	8,557,664

THE WORLD'S SHEEP AND THE WOOL PRODUCT.

The following tabular statement contains the most recent official figures and the best estimates available of the number of sheep in the several countries. It must not be taken as an exact statement because even where official figures are given, sometimes lambs and sometimes goats are included in the numbers reported, and there is no way of determining how many of either are included.

In the European countries the figures, in most cases, are for years prior to the present war, and when the facts become known it will be found that in many countries the flocks have been largely reduced and in some practically destroyed. The table shows simply the numbers at the latest dates obtainable, and will be useful for reference.

NUMBER OF SHEEP IN THE WORLD ACCORDING TO THE LATEST AVAILABLE REPORTS AND ESTIMATES.

Country.	Year.	Number of Sheep.
NORTH AMERICA:		
United States: Continental	1915	49,956,000
Noncontiguous, except Philippine Islands:		
Hawaii .....	....	76,719
Porto Rico .....	....	6,363
Alaska .....	....	199
Total United States		50,039,281
Canada	1915	2,038,662
Newfoundland .....	....	97,597
Mexico	1902	3,424,430
Central America .....	....	124,044
Cuba .....	....	9,982
British West Indies .....	....	27,980
Dutch " "	....	22,643
Guadeloupe .....	....	11,731
		5,757,069
Total North America		55,796,350
SOUTH AMERICA:		
Argentina	1912	83,545,931
Brazil	1913	10,653,000
Bolivia	1910	1,454,729
Chile	1914	4,602,317
Colombia .....	....	746,000
Uruguay	1908	26,286,296
Falkland Islands .....	....	711,000
Other South America .....	....	407,000
Total South America		128,406,273

¹ Includes lambs.

NUMBER OF SHEEP IN THE WORLD, ETC. — *Continued.*

Country.	Year.	Number of Sheep.
EUROPE:		
Austria Hungary	1910-13	12,337,867
Belgium .....	....	235,722
Bulgaria	1910	8,632,388
Denmark, Iceland, and Faroe Islands .....	....	1,319,197
Finland .....	....	1,309,000
France	1915	13,483,189
Germany	1914	5,451,570
Greece .....	....	4,000,000
Italy	1908	11,162,926
Montenegro .....	....	400,000
Netherlands .....	....	842,000
Norway .....	....	1,393,000
Portugal	1906	3,072,988
Roumania	1911	5,269,493
Russia in Europe	1911	46,381,000
Saxony .....	....	58,185
Servia	1910	3,818,997
Spain	1913	16,441,407
Sweden	1911	946,000
Switzerland	1911	160,000
Turkey	1910	21,190,000
United Kingdom, including Isle of Man, etc.,	1915	27,552,136
All other Europe .....	....	20,000
Total Europe		185,477,065
ASIA:		
British India:		
British Provinces	1914	23,091,955
Native States	1914	8,129,000
Total		31,220,955
Ceylon	1912	91,000
Cyprus	1912	256,000
Japan	1912	3,357
Philippine Islands	1913	103,000
Russia in Asia	1911	34,493,000
Turkey in Asia	1912	27,094,678
Other Asia .....	....	60,000
Total		62,101,035
Total Asia		93,321,990

NUMBER OF SHEEP IN THE WORLD, ETC. — *Concluded.*

Country.	Year.	Number of Sheep.
AFRICA :		
Algeria	1912	8,338,023
British East Africa .....	....	6,500,000
German East Africa	1913	6,439,647
German South West Africa	1912	499,000
Madagascar	1911	352,000
Rhodesia	1911	300,000
Soudan (Anglo-Egyptian)	1909	830,000
Tunis	1912	767,000
Uganda Protectorate	1914	542,000
Cape of Good Hope }		
Natal }	Union of }	
Orange Free State }	South Africa }	35,710,843
Transvaal }		
All other Africa .....	....	4,130,335
Total Africa		64,408,848
OCEANIA :		
Australia	1915	82,011,606
New Zealand	1915	24,465 526
Total Australasia		106,477,132
Other Oceania .....	....	10,000
Total Oceania		106,487,132
Total World		633,897,658

As compared with the similar table in the Review for 1914, the number of sheep in the world shows an increase of about 19,000,000.

This does not indicate an actual increase in the flocks, which in several countries show a decrease, but simply that more recent information has caused a revision of earlier figures with this result. The total number of sheep as given for 1914 was 614,379,776, while for this year the total is 633,897,658.

WOOL PRODUCTION OF THE WORLD.

What is said above of sheep applies with equal or greater force to the table of wool production. The United States, the United Kingdom, Australasia, and British South Africa are the only countries from which reliable statistics are available at present. For other countries, the quantities reported last year are in some cases carried over, and in others, where the report of the number of sheep has been materially changed, the quantity recorded has been modified accordingly.

There is an apparent anomaly in the increase in the number of Argentine sheep reported and the steady decrease in the wool product as measured by the exports. In 1907 the Argentine census reported 67,200,000 sheep; more recent estimates increase the number to 83,545,931. At the same time, the wool product as gauged by the reports of exports has decreased from 178,000 metric tons in 1907-8 to 120,000 in 1913-14.

It is possible that the census report included shearing sheep only, and made no account of the lambs, and that the later reports include both sheep and lambs. If this is the fact, a part of the discrepancy would be accounted for. In the absence of official Argentine figures the sheep figures are presented with this suggestion. In the United States census sheep and lambs are entered both as a whole and separately.

WOOL PRODUCTION OF THE WORLD.

COUNTRY.	WOOL.
North America:	<i>Pounds.</i>
¹ United States	288,777,000
British Provinces	11,210,000
Mexico	7,000,000
Total North America.....	306,987,000
Central America and West Indies.....	750,000
South America:	
Argentina	264,500,000
Brazil.....	35,000,000
Chile	17,000,000
Peru.....	9,420,707
Falkland Islands.....	3,200,000
Uruguay.....	143,203,000
All other.....	5,000,000
Total South America.....	477,413,707
Europe:	
Austria-Hungary.....	41,600,000
France.....	75,000,000
Greece.....	16,000,000
Germany	25,600,000
Italy.....	21,500,000
Portugal.....	10,000,000
Russia in Europe.....	320,000,000
Spain.....	52,000,000
Turkey and Balkan States	90,500,000
United Kingdom.....	121,200,043
All other.....	30,000,000
Total Europe.....	803,400,043
Asia:	
British India.....	60,000,000
China.....	50,000,000
Persia	12,146,000
Russia in Asia	60,000,000
Turkey in Asia	90,000,000
All other	1,900,000
Total Asia.....	273,146,000
Africa:	
Algeria.....	33,184,000
British Africa	157,761,470
Tunis.....	3,735,000
All other	13,000,000
Total Africa.....	207,680,470
Oceania:	
Australia and Tasmania.....	569,775,000
New Zealand	197,266,914
Total Australasia	767,041,914
All other.....	100,000
Total Oceania.....	767,141,914
Total world.....	2,836,519,134

¹ Estimate of the U. S. Department of Agriculture.

The world's wool production as computed for 1915, 2,836,519,134 pounds, shows a decrease from last year, when the total was 2,872,487,987 pounds, of 36,000,000 pounds. The product of Australasia as measured by her exports shows a decrease of 58,000,000 pounds, although the actual decrease in the clip according to the best trade estimates was much greater, the difference arising from the fact that a large quantity of the product of the preceding year was held over and shipped during the 1914-15 wool season.

The total world's product has been increased by the addition of 33,000,000 pounds in Brazil, consequent on more recent information concerning the flocks of that country.

WILLIAM J. BATTISON.

THE DYESTUFF PROBLEM STILL ACUTE.

NO RELIEF FROM EUROPE IN SIGHT—A LOGWOOD EMBARGO IMPOSED AND LIFTED IN JAMAICA.

A FAMINE in dyes is still as characteristic of the American textile industries as in October, when the latest quarterly Bulletin described the mill situation at that date. Hope is virtually abandoned of the securing of any quantity of standard dyes from Germany. The British government is willing to pass German dyes through the blockade to the United States—making an exception of this particular commodity because of the urgent need of America. But this consent is a nominal and not a real concession, for the German government still insists that if dyestuffs are shipped, American cotton must be received in compensation—and the British Admiralty has thus far barred the dispatch of cotton directly or indirectly to German destinations. Unless conditions suddenly change, the further importation of German dyes so long as the war lasts may best be dismissed from the calculations of American manufacturers.

Some American mills that were more than usually forehanded still possess carefully husbanded supplies of many standard colors—though rare indeed is the mill that has a complete range. A lack of dyes is now responsible from week to week for the shutting down of machinery here and there and the abandonment of certain amounts of business. Dr. Beckers, the National Aniline and Chemical Company and other American producers are working heroically to fill the void, and their skill and persistence are heartily to be commended. But their products do not yet and will not soon suffice to fill the needs of the great textile industries. Other concerns are entering the dyestuff business on a small scale in a tentative way, but there are no signs that the problem is being grappled with in an adequate way by American capital, technical skill, and administrative ability.

The one supreme reason for this hesitation is — President Wilson's Democratic Administration and the Democratic Congress. It is the government of this country and its archaic economic dogmas that stand in the way of the vigorous upbuilding of an independent dyestuff industry in the United States. Here is the greatest opportunity for industrial and commercial advance that has ever been recorded, and the American people are losing the advantage of it every day because the cobwebbed prejudices of John C. Calhoun and his times are dominant in Washington.

Great Britain has long professed to be a free trade nation, and yet the British government threw laissez faire out of doors when the war abruptly cut off the supply of German dyestuffs. All the enormous expenditures for the army and navy did not prevent the British government from bestowing \$7,500,000 on a protective subsidy to British dyestuff manufacturers. Japan has followed suit, and has provided subsidies for ten years to encourage the dyestuff and chemical industry of the empire. These Japanese bounties will be given to concerns on condition that one-half of their capital is held in Japan, and the amount of the encouragement "will be sufficient to enable the companies to pay a dividend of 8 per cent on the capital invested." Before the war Japan annually imported about \$3,500,000 worth of dyes, nearly all of which came from Germany. Resolute Japanese statesmen see no reason why under suitable protection these indispensable materials of native industry should not be produced in Japan itself.

Thus under the first pressure of serious war the free trade theory collapses everywhere like a house of cards, and is swept out into the lumber-room of the nations — everywhere except in the United States of America. "Worse than worthless" is the unvarying verdict of business men upon the "anti-dumping" proposal of this National Administration. Several other countries have anti-dumping laws, but, as one eminent chemist has pointed out, "those countries were still dependent on Germany like the rest of the world, and were experiencing the same dyestuff shortage that existed

elsewhere. This anti-dumping talk is simply another effort toward evading the real issue — the tariff."

THE HILL DYESTUFF BILL.

But the issue can no longer be evaded. It is inevitably forced by the facts of the case itself. On December 6, 1915, Hon. E. J. Hill, Representative from Connecticut, a gentleman of vigor, pertinacity and long experience in business and in Congress, introduced an important bill, H. R. 702, "To provide revenue for the government and to establish and maintain the manufacture of dyestuffs." This bill was referred to the Committee on Ways and Means. Its provisions are :

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That on and after the day following the passage of this Act, except as otherwise specially provided for in this Act, there shall be levied, collected, and paid upon the articles named herein when imported from any foreign country into the United States or into any of its possessions, except the Philippine Islands and the Islands of Guam and Tutuila, the rates of duties which are herein prescribed, namely :

DUTIABLE LIST.

First. — All products of coal, produced in commercial quantities through the destructive distillation of coal or otherwise, such as benzol, toluol, xylol, cumol, naphthalin, methylnaphthalin, azenaphthen, fluoren, anthracene, phenol, cresol, pyridin, chinolin, carbazol, and others, not specially provided for and not colors or dyes, five per centum ad valorem

Second. — All the so-called "intermediates," made from the products referred to in paragraph 1, not colors or dyes, not specially provided for, 3½ cents per pound and fifteen per centum ad valorem.

Third. — All colors or dyes derived from coal 7½ cents per pound and thirty per centum ad valorem.

FREE LIST.

Fourth. — Acids: Acetic or pyroligneous, arsenic or arsenious, chromic, fluoric, hydrofluoric, hydrochloric or muriatic, nitric, phosphoric, prussic, silicic, sulphuric or oil of vitriol, and valerianic.

Fifth. — Coal-tar, crude, pitch of coal-tar, wood or other tar, dead or creosote oil.

Sixth. — Indigo, natural.

See 2. That paragraphs twenty, twenty-one, twenty-two, and twenty-three of schedule A of section 1 of an Act entitled "An Act to reduce tariff duties and to provide revenue for the government and for other purposes, approved nine o'clock and ten minutes post meridian October three, nineteen hundred and thirteen," and paragraphs three hundred and eighty-seven, three hundred and ninety-four, four hundred and fifty-two, and five hundred and fourteen of the "free list" of section one of said Act, and so much of any heretofore existing law or parts of law as may be inconsistent with this Act are hereby repealed.

In drawing up his bill Mr. Hill has followed the suggestion of the chemical and dyestuffs committee of the New York section of the American Chemical Society — expert, practical men who believe that the enactment of the bill would break forever the dependence of the United States on Germany. Because of the urgency of the subject, Mr. Hill asked for a prompt public hearing, and this was set for January 14 by Chairman Kitchin of the Committee on Ways and Means, who could not but recognize the critical conditions which Mr. Hill has sought to remedy.

The able Connecticut Representative, long a stalwart protectionist champion in the House, has rendered a very great service to the textile industries of this country by his skilful drafting of the bill, his early introduction of it and his successful demand for a hearing of the case. He has drawn the issue unmistakably between the friends and the foes of American protective legislation in Washington. The emergency is such that a hearing could not be refused, and he has pointed the only way in which our nation can hope to gain enduring prosperity and economic independence. The dyestuff problem may prove one of the great determining factors of the Presidential campaign of 1916.

THE JAMAICA LOGWOOD EMBARGO.

A condition already bad enough from the lack of aniline dyestuffs was made worse early in December last by the sudden proclamation of an embargo on the export of logwood from Jamaica. When the embargo was issued by the British

government, vessels were being loaded in Jamaica for the United States, and they were compelled to discharge their cargoes and abandon their charters. Logwood has been brought from Hayti, Santo Domingo, British Honduras, and Mexico as well as from Jamaica, but the Jamaican product has been regarded as particularly superior for wool dyeing purposes. There was labor available for cutting it and shipping facilities were adequate before the war began. In the lack of aniline dyes, logwood dyes were being resorted to by manufacturers to such an extent that the American Dyewood Company and other concerns were straining every nerve to increase their facilities. The embargo produced a painful sensation among textile manufacturers throughout the country, and immediate appeals for relief were made to Washington. This message was immediately sent on behalf of the National Association of Wool Manufacturers :

BOSTON, MASS., Dec. 4, 1915.

HON. ROBERT LANSING, *The Secretary of State*, Washington, D.C.

DEAR SIR: Manufacturers are informed that a strict embargo has been placed on the export from Jamaica of logwood, essential to the production of certain dyes of great value to the American textile industry. Jamaica has been a regular and important source of supply, and the prohibition of exports to this country will intensify the shortage of suitable dyestuffs which has already been made the subject of representations by the Department of State.

The National Association of Wool Manufacturers respectfully asks the Department to make a suitable protest to the British government against the embargo in Jamaica. It is the understanding here that there are vast areas of logwood still untouched in the island, and that the needs of the United Kingdom could be properly met without a prohibition of the export of reasonable quantities to the United States.

I am, with great respect,

Sincerely yours,

WINTHROP L. MARVIN, *Secretary,*

National Association of Wool Manufacturers.

This reply was received from the Department of State:

WASHINGTON, D.C., Dec. 13, 1915.

NATIONAL ASSOCIATION OF WOOL MANUFACTURERS, 683 Atlantic Avenue,
Boston, Mass.

GENTLEMEN: The receipt is acknowledged of your letter dated December 4, 1915, relative to an embargo on the exportation of logwood from Jamaica.

The Department is informed by the American Consul at Kingston that this embargo is absolute, except with reference to shipments to Great Britain. The American Consul at Belize, British Honduras, has been instructed to report whether shipments of logwood may be made from that region. Representations to the British Government have been made, in which the vital need for this commodity has been emphasized and a relaxation of the order requested.

You will be informed of any material developments which may occur in the matter.

I am, Gentlemen,

Your obedient servant,

For the Secretary of State:

ALVEY A. ADEE,
Second Assistant Secretary.

and the following communication was sent to Washington:

BOSTON, MASS., Dec. 15, 1915.

THE SECRETARY OF STATE, Washington, D.C.

DEAR SIR: I acknowledge and thank you for the receipt to-day of a letter of December 13 signed by Hon. Alvey A. Adee, Second Assistant Secretary, in reply to my letter of December 4 relative to an embargo on the export of logwood from Jamaica. It is gratifying to learn from the Department that the American Consul at Belize, British Honduras, has been instructed to report whether shipments of logwood may be made from that region. I would earnestly suggest that a similar instruction be sent to Consuls in Hayti and Santo Domingo, whence important supplies of logwood have been received. There is much confidence that the British government will accede to the request of the Department and modify or remove the embargo in Jamaica. But it seems to

be sound business prudence not to depend for this indispensable material of dyestuffs on one British colony alone.

Sincerely yours,

WINTHROP L. MARVIN, *Secretary,*
National Association of Wool Manufacturers.

The valuable services of the Textile Alliancee, Inc., were immediately invoked, and the case was laid before influential Senators and Representatives. On December 21 the British Embassy at Washington announced that permission had been granted by the British government for the export from Jamaica to the United States of dyewood shipments aggregating 4,700 tons, and it was promised that the question of a permanent withdrawal of the embargo would be taken up by the British authorities as soon as the shortage of the product in Great Britain could be relieved. It was added that there must be an understanding that an adequate proportion of the dyewood received here should be used to furnish dyestuffs for Canadian mills.

The British position in regard to the embargo is outlined in an appeal from the Dundee Chamber of Commerce, which was echoed by the Leeds and Bradford Chambers, as follows:

The present position of the supply of logwood extract and its allied preparations, logwood powder and haemateine crystals, is the cause of much anxiety to the dyeing trade in this district, and seriously affects the production of textiles for the use of the government departments and the clothing trade of the country generally. The supply of logwood products is largely in the hands of the British Dyewood and Chemical Company (representing the interests of the United Dyewood Company of America with control of works in Jamaica), the West Indies Chemical Works, Ltd., Jamaica, and some French firms. These firms are syndicated to control the manufacture, supply and price of logwood products. The resulting position, so far as the United Kingdom is concerned, is very serious. Not only have prices advanced about 300 per cent, but the supply is entirely unequal to the demand, and while logwood products in the West Indies are being exported steadily to America, the home markets are practically at starvation point, and such important British

manufacturing firms as the Yorkshire Dyeware and Chemical Company, Ltd., are unable to secure offers of wood at any price. The prospect is that a crisis will be reached early next year, if not sooner. In these circumstances it is suggested that the government should take such steps to control the export from, at any rate, the British West Indies, of logwood as would insure the needs of the British trade being adequately met. This matter is very urgent, and it is hoped it may receive the immediate attention of the government.

In the year 1914 Jamaica had supplied almost 60 per cent of the logwood imported into the United States—Jamaica's share amounting to 19,984 tons, then valued at \$269,272. Hayti in that year sent logwood to the United States amounting to 9,446 tons, valued at \$95,609; Mexico, 493 tons, valued at \$8,773, and Santo Domingo, 239 tons, valued at \$4,410. The part of prudence of American dyewood manufacturers would seem to be to improve their facilities for importation from other sources than Jamaica, so that if an embargo is renewed it cannot have such disastrous consequences.

THE HEARING ON THE HILL BILL.

At the hearing January 14 and 15 on the Hill bill before the Committee on Ways and Means in Washington, Dr. Bernhard C. Hesse of New York, appearing for the American Chemical Society, was the first witness. He explained that while he personally was neither in favor of nor opposed to a protective tariff, the Hill duties were the lowest possible under which a dyestuff industry could be built up in the United States. He further gave it as his opinion that the Hill bill met and closely duplicated the tariff conditions existing in 1882, when there was something of an industry in this country, that the bill put all dyes of coal tar origin on the same level for tariff purposes and also put all intermediates on the same level for tariff purposes—giving a protection of 35 per cent on the average value of all intermediates and of 65 per cent on the average value of all finished dyes, the average being based on export values out

of Germany in the year 1913. Dr. Hesse added that one great incidental advantage which would result from the building up of a dyestuff industry in the United States was the contribution which that industry would make toward the national defence, for by a slight alteration in the dye factories these factories could be utilized immediately for the production of explosives and similar munitions of war.

Dr. J. Merritt Matthews of East Orange, N.J., representing the American Chemical Society, was another witness. He stated his belief that American consumers of dyes would be willing to bear an increased cost if that were essential to the development of a dyestuff industry in America. He stated further that dyestuffs bore a relatively small relation to the cost of textiles, but that without dyestuffs the textile industry was gravely hampered. He favored the proposed bill because he was confident that it would give an adequate incentive to the establishment of an American dyestuff industry. He was of the opinion that a real, practical benefit would result within twelve months, and that full benefits would be realized within three to five years.

Mr. Fuller E. Callaway of La Grange, Ga., a cotton manufacturer, told the committee that he did not himself use dyes, but sold his goods to dyers, and that he found that his market was being curtailed because there was no prospect of obtaining dyestuffs. Mr. Callaway suggested that it might be wise to enact both the Hill bill and the Redfield anti-dumping law, and that then there would be no doubt about the measure of protection. Mr. Callaway explained to the committee that he was speaking as an earnest Democrat.

Dr. William Beckers, president of the W. Beckers Aniline & Chemical Company of Brooklyn, N.Y., who has had an experience of twenty years in the coal tar dyestuff industry in Germany and this country, approved the Hill bill and declared that it was the right way in which, alongside of other already highly developed industries, a modern organic chemical industry could be substantially and intelligently built up, as a whole, on American soil. Dr. Beckers warned the committee that the present tariff was a menace even to

the existing small American dyestuff industry, which might be entirely lost at the end of the present war, and like Dr. Hesse he emphasized the fact that the dyestuff industry is indispensable for the making of modern explosives in time of need.

Mr. J. F. Schoellkopf, of the National Aniline & Chemical Company, advocated protective tariff legislation in connection with a drastic anti-dumping clause, and assured the committee that with this protection his and other companies would undertake a gradual increase of their plants.

Dr. Charles H. Herty, president of the American Chemical Society, testified in favor of the Hill bill, and like Dr. Beckers warned the committee that unless an adequate tariff were provided the present small American dyestuff industry would be extinguished after the European war. Dr. Herty said that he himself was a follower of the Democratic party, and had hitherto been reluctant to appear before Congress in behalf of protection. He asked for "a reasonable tariff for a reasonable length of time."

Mr. John P. Wood, President of the National Association of Wool Manufacturers, spoke of manufacturing plants that had orders on their books for several months ahead, and yet had one-third of their machinery idle for lack of dyestuffs. He brought to the attention of the committee the action of the British government in encouraging British dyestuff making through a subsidy to the Reed-Holliday plant, and cited British suggestions that at the conclusion of the war the importation of dyestuffs into the United Kingdom from Germany should be entirely prohibited.

Mr. Horace B. Cheney, of Cheney Brothers, South Manchester, Conn., a member of the committee of the Silk Association of America, expressed the desire of silk manufacturers to support whatever duties may be necessary to create a dyestuff industry in the United States. The cost of dyestuffs, he said, is almost an infinitesimal factor in the cost of manufacturing silks, being less than one per cent, while the situation now confronting a great industry is the possible necessity of discontinuing operation and throwing thousands of people out of employment because the dyestuffs necessary

to complete the process of manufacture cannot be had. Any increase in the cost of dyestuffs due to the protective duties would not be permanent, he believed, but if it were permanent silk manufacturers still earnestly requested that such protection be bestowed—first as an insurance in the silk industry against the possible future loss of their entire business, and, second, as a patriotic measure to provide the United States with the necessary establishments for the manufacture of explosives in time of war.

Mr. Franklin W. Hobbs, the president of the Arlington Mills, as one of the large users of dyestuffs in the textile industry asked the committee to enact at the earliest possible moment legislation to encourage the production of an adequate supply of domestic dyestuffs. The capital, skill, and material, said Mr. Hobbs, were ready, and would at once be utilized if those interested could be assured of protection against the foreign competition that will follow the close of the war.

The Arkwright Club of Boston, through Mr. Edward Stanwood, secretary, sent a statement to the committee that the manufacturers of the Club were in entire sympathy with the purpose of the Hill bill, but suggested that the proposed measure, in order to be effective and fair, should be accompanied by legislation giving a corresponding increase in duties on the manufactured goods into which dyes entered. The Arkwright Club intimated that there should be excepted from the Hill bill, for the present at least, certain products which by reason of patents or otherwise American dyestuff makers might not reasonably be expected to produce for some years.

Mr. Ludwig Stein, chairman of the dyestuff committee of the National Association of Clothiers, expressed the desire of his association for adequate protection to the dyestuff industry. Mr. W. D. Livermore, chemist of the American Woolen Company, spoke in favor of the principle of legislation embodied in the Hill bill, as did also Dr. John Alden, chemist of the Pacific Mills, Mr. Thomas O. Marvin, secretary, representing the Home Market Club of Boston, Congressman William H. Carter, of Massachusetts, and others.

ACTIVE AND IDLE MACHINERY.

A MARKED GAIN IN EMPLOYMENT INDICATED FOR THE LAST MONTH OF THE YEAR 1915.

AN unusual interest attached to the latest quarterly inquiry of the National Association of Wool Manufacturers — the inquiry of December 1, 1915 — relative to the amount of machinery active and idle in the United States. A quickened general demand for wool fabrics had become manifest in the autumn of 1915, and considerable quantities of uniform cloths and blankets for belligerent governments of Europe were still in process of manufacture by American mills. It was anticipated that the figures for December 1 last would indicate a fuller degree of employment throughout the industry than had previously been recorded. The quarterly canvass sustained these expectations — and the reasons for this marked improvement are thoroughly understood within the trade.

The results of the quarterly inquiry for December 1, 1915, relative to total amount of machinery active and idle and to amount engaged on foreign military orders, are as follows:

MACHINERY.	Total Number Reported.	In Operation.	Idle.	Engaged on Foreign Military Orders.		
				December 1, 1915.	Dec. 1, 1915.	Sept. 1, 1915.
Looms, wider than 50 in. reed space, Looms, 50 in. reed space, or less . . .	38,946 10,444	32,411 8,330	6,535 2,114	1,846 14	2,248 40	1,585 3
Looms, carpet	3,318	2,668	650	· · · · ·	· · · · ·	· · · · ·
Woolen cards, sets	3,550	3,238	312	529	547	296
Worsted combs	1,875	1,608	267	· · · · ·	2	· · · · ·
Woolen spinning spindles	1,127,336	1,030,435	96,901	167,513	150,185	113,067
Worsted spinning spindles	1,586,383	1,339,032	247,351	480	5,700	· · · · ·

Not at any time since the quarterly inquiry of the National Association of Wool Manufacturers was begun, on December 1, 1913, has the proportion of looms wider than 50 inches

reed space reported as idle been so small as 16.8 per cent, the figure recorded on December 1, 1915. Only on September 1, 1914, has the unemployed proportion of looms of 50 inches reed space or less been so low as 20.2 per cent—the figure for December 1, 1915. There is a marked improvement in the activity of the carpet manufacturing branch of the industry, and while woolen cards showed an idle proportion of only 8.8 per cent on December 1, worsted combs showed a rate of 14.2 per cent, slightly larger than the figure for September 1, 1915, but lower by far than in any preceding quarter so far as the inquiry has been made. No worsted combs and only 480 worsted spinning spindles were returned on December 1, 1915, as being engaged on foreign orders, and the gain in employment has characterized alike the woolen and the worsted branch of the wool manufacture as a whole. There is a marked change between the record of June 1, 1915, when 39.6 per cent of worsted spinning spindles were reported as idle, to the 15.6 per cent of December 1, 1915. The proportions of idle machinery to total machinery reported for the eight quarters beginning with March 2, 1914, down to and including the inquiry of December 1, 1915, are published in comparative form as follows:

MACHINERY.	Per Cent of Idle to Total Reported.							
	Dec. 1, 1915.	Sept. 1, 1915.	June 1, 1915.	Mar. 1, 1915.	Dec. 1, 1914.	Sept. 1, 1914.	June 1, 1914.	Mar. 2, 1914.
Looms, wider than 50 in. reed space . . .	16.8	26.7	30.4	32.7	27.7	26.	24.6	24.8
Looms, 50 in. reed space, or less . . .	20.2	31.2	25.9	32.	30.	17.3	25.	17.7
Looms, carpet	19.6	24.	24.5	45.8	48.9	38.3	28.3	24.5
Woolen cards, sets . . .	8.8	15.5	17.7	22.7	30.	22.8	19.4	19.5
Worsted combs	14.2	14.	30.	29.4	41.3	21.	15.5	13.
Woolen spinning spindles	8.6	14.2	17.4	21.5	31.6	22.5	25.8	22.2
Worsted spinning spindles	15.6	17.	39.6	33.	33.	16.9	18.1	22.

Those disastrous effects of the new tariff for revenue only which characterized the period from January 1, 1914, to the outbreak of the European war have been modified by the war

itself in the consequent reduction of importations of foreign wool manufactures which are now at almost the figure of the years immediately preceding the enactment of the Simmons-Underwood law. Moreover, the enormous European demand for munitions, foodstuffs, and other products has temporarily stimulated employment in so many industries throughout the country that the purchasing power of the whole country has been greatly increased. During the long business depression consequent on a radical reduction of the tariff, the people of this country were forced to economize in woolen clothing, carpets, rugs, etc., as in other things, and the process of replenishment has necessarily brought a marked gain in present business everywhere. Not only are the unemployed fewer in number than at any time since 1912, but many of the persons engaged in the manufacture of munitions are earning unprecedented wages. These factors readily explain the brighter conditions that now prevail in American wool manufacturing.

Obituary.

THEOPHILUS PARSONS.

ONE of the most honored of the textile manufacturers of New England, Mr. Theophilus Parsons, president and director of the Amoskeag Manufacturing Company and of the Dwight Manufacturing Company, and treasurer of the Lyman Mills, died Tuesday, January 4, 1916, at his home in Boston. Mr. Parsons, who bore a name distinguished in Massachusetts annals, was born in Jamaica Plain in 1849, and named for his great-grandfather, who was a Chief Justice of the Supreme Court of the Commonwealth. Entering Harvard, Mr. Parsons was graduated from the university in 1870, and entered on the cotton manufacturing business in the Lyman Mills of Holyoke, of which his uncle, Mr. Samuel L. Bush, was treasurer. Mr. Parsons diligently applied himself to the business at Holyoke, and also made a careful study of manufacturing conditions in Europe. He became in 1880 the agent of the Pocasset Manufacturing Company of Fall River, and soon returned to the Lyman Mills as agent. On the death of Mr. Bush in 1884 Mr. Parsons was elected treasurer of the Lyman Mills to succeed him. Between 1900 and 1910 Mr. Parsons was the president of the Arkwright Club, and in this post took a leading part in the organization of the long staple cotton committee of the Arkwright Club, which has done so much to encourage the production of cotton in the Southern States.

Besides the important mill connections held by Mr. Parsons, he was also a director of the New England Trust Company and of the American Mutual Liability Insurance Company, vice-president and a director of the National Union Bank and a trustee of the Provident Institution for Savings. He leaves a daughter, Miss Susan L. Parsons.

Editorial and Industrial Miscellany.

DYESTUFFS AND SELF-RELIANCE.

THE HILL BILL POINTS THE RIGHT WAY OUT IN WASHINGTON.

DYESTUFFS is a subject that at the present writing plays a large part in the interest of the textile manufacturers of the United States—and not only of the textile manufacturers but of the manufacturers of paints, leather, and many other articles where coloring is an important factor in the finished product of the industry. Late developments in the dyestuff situation are outlined in other pages of the Bulletin. Most cheering and significant of all is the introduction into Congress by one of the most vigorous and resourceful of public men, Hon. E. J. Hill of Connecticut, of a comprehensive bill framed on the recommendations of practical chemists and providing adequate tariff protection for classes of dyes for which we have hitherto been almost entirely dependent upon Europe. The hearings recently given by the Committee on Ways and Means of the House of Representatives brought evidence of the earnestness with which this legislation is desired by the manufacturing industries most immediately concerned. It goes without saying that an effort will be made by majority leaders in Congress to put off the manufacturers by a mere anti-dumping measure, but no such expedient will suffice. There must be deliberate and honest protective tariff legislation, and if the present Administration will not supply it, then the Administration itself will be furnishing a powerful argument why it should promptly give way to one that will.

All that an anti-dumping law can do is to forbid foreign producers to sell their wares in the United States below the cost of production. Such a prohibition would be exceedingly difficult to enforce, because no machinery has been or can be provided to ascertain with precision what the cost of production is in the highly secretive manufacturing industries of Europe. Only a few years ago a United States Tariff Board armed with the authority of the government attempted this, and met with signal

discomfiture. Foreign manufacturers regard their cost of production as their own exclusive private affair, as a secret of their trade, and no business of their competitors abroad or of the officials of another nation. All the powers of a holy inquisition could not drag this information out of manufacturers of Europe if they were not disposed to give it.

But even if such information could be secured and if foreign products sold in this country below the cost of production were summarily excluded, such an anti-dumping law would fail to meet the situation. It is perfectly well known that in the dyestuff manufacture, as well as in many other industries, the cost of production in Europe, primarily because of the far lower cost of labor, is very much less than it is in the United States. This, indeed, is the fundamental reason why there is any dyestuff situation at the present time. If dyestuffs could be produced in this country as cheaply as in Europe, they would be produced here—the industry would long since have been developed and perfected, just as it has been in Germany. For the basic raw materials, or most of them, are procurable here in enormous quantities out of our vast coal, iron and steel industries, in which we are acknowledged to lead the world, manufacturing as much iron and steel as Great Britain and Germany together. There is technical talent of a very high order available in the United States, which has made magnificent progress of late years in other lines in the industrial application of chemistry. No intelligent, serious men will anywhere be daunted by all that has been said about the elaborate, scientific organization of the dyestuff industries of Germany. We all honor German skill, ambition, efficiency and thoroughness, but the Germans after all are not supermen, nor does their empire possess a monopoly of these valuable human characteristics. When all is said and done, the transplanting of the dyestuff manufacture to the United States does not begin to compare in its complex and formidable difficulties with the transplanting of the various great textile industries to this country—and this, as the whole world knows, is now and long has been a fact accomplished.

Native Americans for several generations have known something about skill, ambition, efficiency, and thoroughness. No industrial and technical development, not even Germany's, wonderful as that is, equals the development of the United States, which a brief century ago was only a narrow belt of pioneer civi-

lization between the ocean and the wilderness. One by one, the industries of Europe have been duplicated here until of all the nations under the sun our own with its wonderful wealth of forest, soil, and mine has come the nearest to being absolutely self-sustaining.

In all this great work it has invariably been found that the starting of any given industry here has brought to our aid some of the best talent of the Old World, drawn to us by the opening of new, free opportunities. There can be no question that as soon as an American dyestuff industry gets squarely on its feet, with national protection guaranteed for a considerable period, some of the foremost technical and administrative ability of Europe will be going into welcome partnership with the technical and administrative ability of America. It has always been so since more than two hundred years ago the best shipwrights of London left the Thames and sailed away to pursue their familiar art and gain a more certain and abundant livelihood in the ports of New England, New York, and Pennsylvania. Every new industry established in America enriches our country not only with the profits and employment of the calling but with some of the most vigorous and efficient brain and brawn of the old lands.

The argument that dyestuff making is a "one-country business" is an argument that has been used in succession against every business that has been developed in the United States. First, it was the iron business — only the English knew how to make iron — they could make enough for the whole world, nobody could compete with them — it was best that England should be the workshop and America the farm. Then it was the cotton business, and then the woolen business — Americans were not adapted to these arts, they were not adapted to manufacturing — they should content themselves with felling trees and raising potatoes, hogs, and corn!

Gradually, under the protective tariff system, always violently deprecated — for America — across the Atlantic, this country of ours has acquired one European manufacturing art after another, and has become far and away the greatest manufacturing nation in the world. For reasons too many to be related here, the dye-stuff business in some of its modern developments has not been adequately included in the protective system, and our country has remained dependent upon European producers. The folly of this dependence has now been demonstrated to all men by the

great European war, and if the American people could be polled upon the specific issue of creating a dyestuff industry in the United States there can be no question that they would record themselves overwhelmingly in the affirmative.

This dyestuff famine has not only enormously increased the cost of such small supplies as are still available, but has already compelled the shutting down of much textile machinery and will soon stop much more, throwing thousands of wage-earners out of employment and reducing the supply of clothing for the American people. Many fabrics cannot be sold and used at all unless they are suitably colored — or cannot be unless popular taste and habit are overcome by dire necessity. All this comes about because as a nation we have neglected to take the essential steps to make it possible to produce the dyes in this country — the same steps that have made it possible to produce the fabrics themselves here. Only one thing is necessary, and that is to pass the Hill bill and provide adequate tariff protection for this industry that has been so long and so strangely neglected by our national lawmakers.

When protection is once secured, capital will be ready to go into the dyestuff business as confidently as it has gone into the cotton business or the woolen business or the silk business. Existing plants will then quickly be enlarged and new plants will be established. This war is not going to last forever. Of itself, it is a temporary protection, but prudent investors rightfully desire a protection that is deliberate, normal, and permanent.

There is one present, particular reason quite aside from weighty economic considerations why a complete dyestuff manufacture should be secured in this country at the earliest possible moment, and that is the essential part borne by certain intermediates in the problem of the national defence. These materials are indispensable for the production of certain powerful explosives. This significant fact undoubtedly affords an explanation of the particular care with which the dyestuff manufacture has been fostered by the German government. If there were no other motive for the encouragement of the dyestuff industry in America, this of itself from high considerations of patriotism and prudence ought to be sufficient. To remain dependent upon Europe for such peculiarly valuable materials is too much like being dependent upon Europe for powder for our seacoast artillery and the shell charges of our battleships.

In view of what has just been said, the plea that protection to the dyestuff manufacture will make dyestuffs cost more and will increase the price of clothing is not entirely impressive. To make our own powder probably costs somewhat more than if we were to patronize the official powder manufacturers of foreign governments. Undoubtedly, we could not only build but officer and man our fortifications and our ships of war more "cheaply" if the work were let out on contract to the Krupps or Armstrongs. But we have tried the experiment in the case of dyestuffs and have found that under present conditions these "cheap" European dyes are the most expensive commodities we have ever contemplated. The cost to the United States, not only by the enormously enhanced prices of such dyestuffs as we can now procure but by the interruption and destruction of the textile and other businesses dependent upon colors, would unquestionably pay all the difference in cost of American and foreign dyestuffs for many years to come.

In the long run the creation of a vigorous American dyestuff industry will inevitably mean reduced prices and improved processes of manufacturing. This is the unvarying history of the transfer of a new industry to the United States. Tariffs are not prohibitive; competition does not cease. But American capital and labor are given a fair and equal chance. Any great increase of cost is temporary, but the advantages of another independent national industry are substantial and enduring. When normal conditions are restored, any added price of textile fabrics due to a dyestuff duty in the United States will never burden the "ultimate consumer," who has learned from his experience under our present economic policy that tariffs do not very appreciably fix the cost to him of anything which he purchases. It is very much better for the "ultimate consumer," who is also as a rule a deeply interested and active producer, that his country should have a dependable supply of its own dyestuffs and incidental resources for the national defence in the event of another foreign war. Sometimes there is nothing so dear in the end as the "cheapness" of these closet philosophers, the doctrinaires, who are also almost every man of them fierce advocates of peace-at-any-price.

WINTHROP L. MARVIN.

LABELING BILLS IN CONGRESS.

THE PROPOSITION OF CHAIRMAN ADAMSON—HEARINGS
ASKED BY MANUFACTURERS.

THE reassembling of Congress has brought another flock of "pure fabric" or labeling bills, most of them framed by public men of inland States. Public hearings have been asked for before any action is taken by the committees of Senate and House to which the proposals have been referred. More of these bills than before are all-inclusive, not singling out the woolen or other textile industries for special restrictions, but enforcing their requirements against all products of manufacture or commodities of trade. The most important bill of all, because it is directly introduced by the Chairman of the House Committee on Interstate and Foreign Commerce, Hon. William C. Adamson, of Georgia, is as follows :

H.R. 192.

A BILL

TO PREVENT CHEATING AND SWINDLING IN INTERSTATE AND
FOREIGN COMMERCE.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That any person, natural or artificial, engaged in interstate commerce or in foreign commerce, who shall make, utter, use, or circulate any false statement, verbal, written, or printed, in pictures, signs, or symbols, or in letters, circulars, posters, books, newspapers, or otherwise, as to the character, quality, quantity, or value of any chattels, goods, or merchandise being shipped or sold in interstate commerce or in foreign commerce with intent to cheat or defraud, and who shall thereby cheat or defraud any person whomsoever; or who, by any deceitful means or artful practices in interstate commerce or in foreign commerce with intent to cheat or defraud, shall cheat or defraud any person whomsoever, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding \$10,000, or in case of an individual or of an officer or agent of a corporation or of a partner, by imprisonment not exceeding five years, either one or both, in the discretion of the court.

The fundamental principle of the Adamson bill is the well-tested principle of the British Merchandise Marks Act, but a prohibition of false advertising is added. It may be doubtful whether, with urgent questions of national defence and national revenue coming forward for immediate action, these other meas-

ures will be able to secure full consideration in either the Senate or the House of Representatives. In any event, fair hearings should be had, and there can be no doubt that they will be granted. Other organizations are preparing briefs after the example of that of the National Association of Wool Manufacturers, published in full in the quarterly Bulletins of July and October. The subject is receiving frank discussion among business men, and there is not much present fear that Congress will be stampeded into any wrong or impossible direction.

For the protection of its members and of the public, the Silk Association of America has begun action to enjoin a number of concerns from misbranding their merchandise, the action taking the form of a petition to the new Federal Trade Commission. The powers of this new commission to prevent unfair trade practices may now be thoroughly tested. Honest business men throughout the country are in thorough accord with every effort for fair dealing, and the influence of commercial organizations will be exerted, not to discourage legislation but to shape this in a way that will be both just and effective.

AMERICAN CLOTHS FOR AMERICAN ARMIES.

HOW WASHINGTON'S DREAM AFTER MANY LONG YEARS CAME TRUE.

EVER since the early months of the great European war there has been a steady outflow from the United States of uniform cloth, overcoatings, blankets, underwear, and hosiery for the use of belligerent armies. The aggregate amount represents many million yards of woolen fabrics, and this manufacture for export is still continuing, though foreign government orders are not relatively so large a factor in textile activities as they were a year or a half a year ago. A considerable part of several European armies is now clothed in the products of American looms, purchased in this country not because they could be produced at a lower cost here than in Great Britain, France or Italy, but because they could not be procured there in sufficient quantities in the desired time and the circumstances were such that the question of price was subordinate to prompt and regular delivery. Even with war-enhanced wages, European mills still

have cheaper labor than American mills, and are, or should be, able to put their goods on the market at a lower figure, generally speaking.

American manufacturers have been commended by representatives of foreign governments for the satisfactory quality of the fabrics furnished, which except in the early hurried days have been subjected to a very careful inspection before being accepted and shipped to their overseas destinations. When the war began there was a great deal of idle machinery in the United States, and manufacturers here were eager for the new business and able to push it rapidly through their mills. Therefore, large quantities of uniform fabrics were quickly completed and sent to Europe, and a favorable impression of the vigor and resources of the American wool manufacturing industry was created on the other side of the Atlantic.

If it were ever necessary to raise and equip a great military force in the United States as rapidly as these huge European armies have been summoned into being, the capabilities of our country to furnish a vast amount of sound and durable woolen clothing in short order would be demonstrated to the satisfaction of the nation. In organization and efficiency the American wool manufacture has no superior in the world. More than one hundred years ago the military or defensive value of a strong woolen industry was emphasized in memorable words by George Washington. As Commander-in-Chief of the American patriot army he had never forgotten the grim lessons of Valley Forge. In 1779, while in the field, he had urged that "vigorous measures be adopted" "to encourage manufactures," and he had impressively added, "Measures of this sort gone heartily into by the several States would strike at once at the root of all our evils, and give the coup de grace to the British hope of subjugating this Continent either by their arms or their acts."

When Washington became the first President of the new republic, in his first address to Congress, he declared that "The promotion of domestic manufactures will, in my conception, be among the first consequences which may naturally be expected to flow from an energetic government." In the same year (1789) Washington sent a letter to Governor Randolph of Virginia indicating that the wool manufacture was foremost in his mind. He went so far as to propose the granting of bounties to encourage this industry, and said: "From the original letter, which I for-

ward herewith, your Excellency will comprehend the nature of a proposal for introducing and establishing the woollen manufacture in the State of Virginia. In the present state of population and agriculture I do not pretend to determine how far that plan may be practicable and advisable; or, in case it should be deemed so, whether any or what public encouragement ought to be given to facilitate its execution. I have, however, no doubt of the good policy of increasing the number of sheep in every State. By a little legislative encouragement the farmers of Connecticut have, in two years past, added one hundred thousand to their former stock. If a greater quantity of wool could be produced, and if the hands which are often in a manner idle could be employed in manufacturing it, a spirit of industry might be promoted, a great diminution might be made in the annual expenses of individual families, and the public would eventually be exceedingly benefited."

As President, Washington showed further, in practical ways, his deep desire for the establishment of an American wool manufacture that would make the country independent of Europe. He and Vice-President Adams both wore at their inauguration American-made broadcloth from the first American woollen factory, that at Hartford, Conn., founded in 1788. When Washington entered on his tour of New England he visited the Hartford mill and made a careful inspection of it.

Doubtless many a memory of his "ragged Continentals" came to the soldier-President as he surveyed the active machinery of the new undertaking which his own efforts had done so much to make possible. When in June, 1776, Congress had called upon each Colony to supply one suit of clothes for each fighting man in the field — Congress to pay the cost later — woollen fabrics were so desperately scarce in the country that it was stipulated that though the coat must be of wool the waistcoat and breeches might be of deer leather if necessary!

Great was the patriotic rejoicing, therefore, when on one dark winter day, December 10, 1776, Captain John Paul Jones in the Continental cruiser *Alfred* brought into Boston Harbor the British-armed transports *Mellish* and *Bideford*, taken off Newfoundland, with large cargoes of British quartermasters' stores, in which the most welcome items were "ten thousand complete uniforms, including cloaks or great-coats, socks and woollen shirts" for General Howe's army and seventeen thousand pairs

of woolen blankets. These were the most opportune and valuable prizes that had been taken from King George in the war, and the uniforms, cloaks and great-coats, redyed, did valiant service on the persons of the King's enemies. Later on in the struggle, with the assistance of the French, considerable quantities of woolen fabrics were procured from Holland, but in nothing was the Continental Army more severely handicapped than in the lack of a native wool manufacture to clothe it in the long, arduous summer campaigns and the inclement winters of 1775-1783.

Though Washington remembered, too many of his fellow countrymen were vacillating and forgetful, and the American wool manufacture, nominally protected, was constantly harassed by politico-sectional attacks and tariff changes, so that when many years afterward the Civil War came, in 1861, it found the nation only partially prepared to clothe an American army on a war footing. Quantities of woolen fabrics were hastily bought abroad to uniform the first Union volunteers. Much of this cloth proved so weak and worthless that there was a new awakening to the need of a greater American woolen industry. It is related of General Benjamin F. Butler of Massachusetts that he emphasized the wretched character of the stuff which Europe had foisted off on our government by hooking his forefinger into the breast of the blouse of man after man of his command drawn up on parade and tearing the cloth as if it had been paper!

At the same time it was discovered that, as Dr. John L. Hayes, the first Secretary of the National Association of Wool Manufacturers, said in an address in Philadelphia: "To our shame be it spoken, all our flags are grown, spun, woven, and dyed in England, and on the last Fourth of July the proud American ensigns, which floated over every national ship, post, and fort, and every patriotic home, flaunted forth upon the breeze the industrial dependence of America on England."

In 1861 the worsted manufacture did not exist in the United States outside of the Pacific, the Hamilton, and the Manchester mills, which were producing mousselaine delaines under discouraging conditions. Seven years before the British minister at Washington, on behalf of the Bradford (Yorkshire) Chamber of Commerce, had petitioned Congress to reduce the already too-low duty on worsted goods, on the plea that they were not and presumably could not be made in America, and a Democratic

Congress in 1857, full of rage against "abolitionist" New England, eagerly granted this request of British manufacturers! Thus tariffs were made in those old days of Southern ascendancy in Washington.

For many years now American soldiers and sailors have worn American uniforms, and American forts and ships have flown American bunting. When Secretary Daniels a year or two ago proposed to go back to English materials for the signals and ensigns of the navy, an outburst of public indignation put an emphatic end to the idea. It is doubly fortunate now that the American wool manufacture has grown to giant strength and is capable of supplying all the needs of the American people and their government, for no considerable orders for military fabrics could now be filled abroad at any price—so completely absorbed are European mills by the demands of their own armaments.

Not only are the American army and navy of to day clothed in American-made fabrics but they are the best-clad services in the world—our government specifications calling for the finest and handsomest cloths provided for military purposes. However great an increase the present Congress may authorize in the land and sea forces of the United States, there will not be the slightest difficulty in equipping them all in blue or khaki of American manufacture. After a long time, the ardent desire of Washington has come to its perfect realization.

WOOL IMPORTS UNDER THE ALLIANCE.

A VERY LARGE VOLUME OF PURCHASES IN THE LAST MONTHS OF 1915, AND THE REASONS THEREFOR.

IMPORTS of raw wool from the United Kingdom and the British Colonies have been proceeding smoothly since the events described in the October Bulletin, under the supervision of the Textile Alliance, Inc. A very large business has been transacted. Manufacturers and merchants have accommodated themselves more and more to the methods prescribed by the Alliance, which has carefully revised the text of the undertakings with a view to conciseness and simplicity.

Under date of November 22, 1915, President Patterson of the Textile Alliance announced that the British Board of Trade had

authorized the Alliance to grant permits for the export of wool wastes, tops and yarns to Russia, France, Italy, and Japan and to British self-governing dominions. This action, long anticipated, has resulted in the development of some valuable business, particularly in exports to Canada. Under date of January 9, 1916, it was announced from Wellington, New Zealand, that the New Zealand government had prohibited the export of cross-bred wools to neutral countries—but before that time American purchasers had secured large amounts of wool in the New Zealand market.

Early in January there developed a feeling in British official circles that the takings of wool in Australia and New Zealand on American account were larger than they should be normally, and there were suggestions from some quarters that some of these purchases were actually for speculative purposes on German account. In reply to these intimations it was urged on behalf of the National Association of Wool Manufacturers that the heavy purchases of Colonial wools could readily be explained by the circumstance that American manufacturers and merchants had bought actively in Australia and New Zealand to fill actual needs of the United States. As the quarterly machinery returns of the National Association demonstrated, the woollen mills throughout the United States were more actively employed in December than for several years preceding, because the war had operated like a protective tariff to reduce importations of wool manufactures to a normal amount, and because the rise in prosperity in the United States, due chiefly to the enormous orders for munitions, foodstuffs, etc., had reduced unemployment and strengthened the purchasing power of the nation as a whole.

It was pointed out further that while these factors led to a marked improvement in the demand for wool, the domestic production of wool had decreased so that manufacturers had been compelled to look to outside sources for their materials to a very much greater degree than ever before. Moreover, it was the judgment of some of the most representative men in the trade that New Zealand wools particularly had been cheaper, value for value, than corresponding wools in South America and elsewhere. Because of the low volume of production in American woollen mills since the tariff agitation began most seriously to depress business in and after 1912, and because also of the recent decrease in imports of wool manufactures, there was a consider-

able vacuum in the woolen goods market of the country to be filled.

These considerations and others like them, it was argued, would suffice to explain the large purchases of wool in the Colonial markets, but there was the further circumstance that the embargo had come without notice a year before, and had surprised most wool manufacturers and merchants without adequate provision for raw materials. Therefore, a natural human apprehension of being caught in the same position again had undoubtedly influenced manufacturers and merchants to make even larger purchases of Colonial wools than they would have been disposed to buy because of the generally strong and rising market. These statements sum up with reasonable accuracy the views of the case generally held by men of experience in the wool trade and in manufacturing. Though there was no disposition to dispute the right of the British government to specify the conditions on which British and Colonial wools should be exported to neutral countries, yet it was very strongly believed that a possible occasional purchase of wool by mercantile houses of German affiliations ought not to be allowed to harass the wool import trade of the United States — for there was no apparent way by which any Colonial wool could be diverted and introduced into Germany.

QUARTERLY REPORT OF THE BOSTON WOOL MARKET
FOR OCTOBER, NOVEMBER, DECEMBER, 1915, AND
DECEMBER, 1914.

DOMESTIC WOOLS. (GEORGE W. BENEDICT.)

	1915.			1914.
	October.	November.	December.	December.
OHIO, PENNSYLVANIA, AND WEST VIRGINIA.				
(WASHED.)				
XX and above	32 @ 33	32 @ 33	32 @ 33	29 @ 30
X	30 @ 31	30 @ 31	30 @ 31	28 @ 29
Blood	38 @ 33	38 @ 39	38 @ 39	35 @ 36
"	40 @ 41	40 @ 41	40 @ 41	35 @ 36
"	40 @ 41	40 @ 41	40 @ 41	34 @ 35
Fine Delaine	34 @ 35	34 @ 35	35 @ 36	30 @ 31
(UNWASHED.)				
Fine	26 @ 27	26 @ 27	26 @ 27	23 @ 24
Blood	34 @ 35	35 @ 36	35 @ 36	29 @ 30
"	36 @ 37	36 @ 37	37 @ 38	29 @ 30
"	35 @ 36	36 @ 37	37 @ 38	29 @ 30
Fine Delaine	30 @ 31	30 @ 31	31 @ 32	25 @ 26
MICHIGAN, WISCONSIN, NEW YORK, ETC.				
(UNWASHED.)				
Fine	24 @ 25	24 @ 25	24 @ 25	22 @ 23
Blood	33 @ 34	33 @ 34	34 @ 35	28 @ 29
"	35 @ 36	35 @ 36	36 @ 37	28 @ 29
"	34 @ 35	35 @ 36	36 @ 37	28 @ 29
Fine Delaine	27 @ 28	27 @ 28	28 @ 29	24 @ 25
KENTUCKY AND INDIANA.				
(UNWASHED.)				
Blood	37 @ 38	38 @ 39	38 @ 39	29 @ 30
"	37 @ 38	38 @ 39	38 @ 39	28 @ 29
Braid	33 @ 34	33 @ 34	33 @ 34	25 @ 26
MISSOURI, IOWA, AND ILLINOIS.				
(UNWASHED.)				
Blood	35 @ 36	35 @ 36	35 @ 36	28 @ 29
"	35 @ 36	35 @ 36	35 @ 36	27 @ 28
Braid	31 @ 32	31 @ 32	31 @ 32	24 @ 25
TEXAS.				
(SCOURED BASIS.)				
12 months, fine, and fine medium .	67 @ 68	67 @ 68	68 @ 69	57 @ 58
Spring, fine and fine medium . . .	60 @ 62	60 @ 62	60 @ 62	53 @ 55
Fall, fine and fine medium	55 @ 57	55 @ 57	55 @ 57	45 @ 47
CALIFORNIA.				
(SCOURED BASIS.)				
12 months, fine	65 @ 67	65 @ 67	65 @ 67	54 @ 55
Spring, fine	60 @ 62	60 @ 62	60 @ 62	48 @ 50
Fall, fine	54 @ 56	54 @ 56	54 @ 56	46 @ 48
TERITORY WOOL: Montana, Wyoming, Utah, Idaho, Oregon, etc.				
(SCOURED BASIS.)				
Staple, fine and fine medium	70 @ 72	70 @ 72	72 @ 73	60 @ 62
Clothing, fine and fine medium . . .	67 @ 68	67 @ 68	68 @ 69	56 @ 57
Blood	68 @ 69	68 @ 69	69 @ 70	58 @ 60
"	66 @ 67	66 @ 67	67 @ 68	53 @ 54
"	62 @ 64	62 @ 64	63 @ 65	53 @ 54
NEW MEXICO.				
(SCOURED BASIS.)				
No. 1	64 @ 66	64 @ 66	65 @ 67	57 @ 58
No. 2	58 @ 60	58 @ 60	58 @ 60	50 @ 52
No. 3	53 @ 55	53 @ 55	53 @ 55	43 @ 45
GEORGIA AND SOUTHERN.				
Unwashed	33 @ 34	33 @ 34	33 @ 35	24 @ 25

DECEMBER 31, 1915.

DOMESTIC WOOL.

The wool market for the closing quarter of the year has developed great strength with a good, steady demand from manufacturers who are generally better employed than they have been for some years. After several months of activity stimulated partly by foreign war orders, manufacturers are now preparing for an active demand in the near future for home consumption, which demand reflects a better employment of labor and at advanced wages.

The shortage of dyestuffs, from all reports, is becoming acute, especially among the dress goods mills, and manufacturers hesitate to take orders for goods to be delivered next spring unless they have the necessary dyes in hand.

Early in October values on medium domestic wools were somewhat unsettled by the announcement that the British government would probably lift the embargo on the export of crossbred wools from England and her colonies. The principal holders of bright wools, however, refused to sacrifice their stocks to any extent and time soon proved that their judgment was correct, inasmuch as prices abroad began to rise, stimulated by the American demand, and the gap in values between foreign and domestic medium wools was soon bridged, the market here becoming stronger than ever.

Domestic wools have not been as active as foreign during this quarter and values, while strengthening, have not materially advanced, especially in the clothing territory wools, which are relatively the cheapest wools in the world to-day.

GEORGE W. BENEDICT.

PULLED WOOLS. (W. A. BLANCHARD.)

	1915.			1914.
	October.	November.	December.	December.
Extra, and Fine A	67 @ 72	68 @ 73	70 @ 75	57 @ 63
A Super	62 @ 65	62 @ 65	63 @ 67	54 @ 57
B Super	58 @ 62	58 @ 62	58 @ 63	50 @ 58
C Super	50 @ 53	50 @ 53	50 @ 54	40 @ 45
Fine Combing	63 @ 67	63 @ 68	67 @ 70	55 @ 60
Medium Combing	62 @ 65	62 @ 65	63 @ 65	50 @ 56
Low Combing	56 @ 58	56 @ 58	57 @ 60	47 @ 52

PULLED WOOL.

With a few exceptions pulled wools occupied a minor place in the activity which has characterized the quarter's business as a whole. B supers of combing length found a quick market at 52 @ 63 cents in the *grease*, while *scoured* wools of this grade dragged at 58 @ 60 cents. Choice fine A's and AA's, which were in limited supply, brought full prices as compared with similar qualities of foreign wools.

Increased business among the woolen mills in December resulted in a better demand for scoured wools and prices soon advanced to the outside quotations given. The market for the quarter closed strong and sheepskins in slaughtering centers rose to a record high point.

W. A. BLANCHARD.

FOREIGN WOOLS. (MAUGER & AVERY.)

	1915.			1914.
	October.	November.	December.	December.
Australian Combing:				
Choice	36 @ 37	36 @ 37	36 @ 38	33 @ 34
Good	34 @ 36	35 @ 36	35 @ 36	32 @ 33
Average	31 @ 32	32 @ 33	32 @ 33	31 @ 32
Australian Clothing:				
Choice	34 @ 35	34 @ 35	35 @ 36	31 @ 32
Good	32 @ 33	32 @ 33	33 @ 34	30 @ 31
Average	31 @ 32	31 @ 32	32 @ 33	29 @ 30
Sydney and Queensland:				
Good Clothing	34 @ 35	34 @ 35	35 @ 36	31 @ 32
Good Combing	35 @ 36	35 @ 36	35 @ 36	30 @ 31
Australian Crossbred:				
Choice	• • • •	• • • •	48 @ 50	32 @ 33
Average	• • • •	• • • •	45 @ 46	29 @ 31
Australian Lambs:				
Choice	32 @ 34	32 @ 34	32 @ 34	32 @ 34
Good	31 @ 32	31 @ 32	31 @ 32	31 @ 32
Good Defective	30 @ 31	30 @ 31	30 @ 31	29 @ 30
Cape of Good Hope:				
Choice	30 @ 31	30 @ 32	32 @ 33	25 @ 27
Average	23 @ 25	24 @ 26	25 @ 27	23 @ 25
Montevideo:				
Choice	• • • •	• • • •	• • • •	26 @ 28
Average	36 @ 38	37 @ 39	38 @ 40	25 @ 27
Crossbred, Choice	34 @ 36	34 @ 37	35 @ 38	29 @ 31
English Wools:				
Sussex Fleece	• • • •	48 @ 50	• • • •	38 @ 39
Shropshire Hogs	46 @ 48	46 @ 48	47 @ 48	38 @ 39
Yorkshire Hogs	• • • •	43 @ 44	• • • •	32 @ 34
Irish Selected Fleece	• • • •	• • • •	• • • •	33 @ 35
Carpet Wools:				
Scotch Highland, White	25 @ 26	25 @ 27	26 @ 28	• • • •
East India, 1st White Jorina	39 @ 41	40 @ 43	41 @ 44	33 @ 35
East India, White Kandahar	31 @ 34	32 @ 36	33 @ 37	33 @ 35
Donskoi, Washed, White	• • • •	• • • •	• • • •	30 @ 32
Aleppo, White	40 @ 45	40 @ 45	41 @ 45	30 @ 32
China Ball, White	30 @ 32	31 @ 33	31 @ 35	23 @ 27
" " No. 1, Open	32 @ 34	33 @ 36	33 @ 36	23 @ 27
" " No. 2, Open	27 @ 28	28 @ 30	28 @ 30	19 @ 22

BOSTON, January 1, 1916.

FOREIGN WOOLS.

Owing to the embargo Australian crossbreds were not in market in sufficient quantities to establish quotations previous to December. The same would apply to wools of English growth.

The demand for foreign wools of all descriptions has continued during the past three months. Our manufacturers are securing orders for goods for domestic consumption in increasing amounts, and are buying freely of Australian, Cape, and other foreign wools.

Under the stimulus of American competition, prices have steadily advanced on nearly all descriptions of wools abroad, in South America, Australia, Cape of Good Hope, and since permits have been given for shipments from England, orders are in evidence there.

There is a possibility of an embargo against shipments of wool from New Zealand.

MAUGER & AVERY.

IMPORTS OF WOOL AND MANUFACTURES OF WOOL.

Entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties.
Under the Acts of 1909 and 1913.

Compiled from Reports, Bureau of Foreign and Domestic Commerce, Department of Commerce.

Note: Under the Act of October 3, 1913, wool became free of duty December 1, 1913, and the new duties on manufactures of wool became effective January 1, 1914, consequently in the fiscal year 1914 the Payne-Aldrich duties were assessed on wool for the first five months and on wool manufactures for the first six months of the year.

1914. 1915.

ARTICLES.	Rates of duty.	Quantities.	Values.	Duties.	1914.		1915.	
					Quantities.	Values.	Duties.	Value per unit of quantity.
Wools, hair of the camel, goat, alpaca, or other like animals;								
Class 1—Merino, nestizo, metz, or metis								
wools, or other wools of merino blood, immediate or remote, down clothing wools, etc., and all wools not hereinafter included in classes two and three —								
Unwashed wool—								
On the skin (pounds)	10 cents per pound,	1,481.00	147.00	Dollars, <i>Pr. et.</i>	Dollars.	Dollars.	Dollars.	Dollars. <i>Pr. et.</i>
9,939,965.00	2,342,582.00	1,093,388.35	.236	100.75	•	•	•	•
155,460,828.11	36,863,457.00	1,237.00	.237	46.68	•	•	•	•
Free					209,113,822.00	48,797,438.00	•	•
Washed wool—								
On the skin (pounds)	21 cents per pound,	31.00	21.31	189.00	•	•	•	•
22 cents per pound,	2,062.00	632.00	.583.64	.257	92.66	•	•	•
Free	4,450,792.00	1,563,681.00	.351	4,391,401.00	1,420,107.00	•	•	•
Scoured wool (pounds)	33 cents per pound,	25.00	19.00	8.25	.760	43.42	•	.323
Free	1,588,561.00	557,933.00	.351	4,368,265.00	1,767,891.00	•	•	•
Total (pounds)	161,500,181.11	38,985,071.00	.241	218,073,488.00	51,985,436.00	•	•	•
Total (pounds)	9,944,244.00	2,943,381.90	.236	46.69	•	•	•	•
Total, Class 1 (pounds)	171,444,445.11	41,328,452.00	.241	218,073,488.00	51,985,436.00	•	•	•

Imports of Wool and Manufactures of Wool, entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties. — Continued.

ARTICLES.	Rates of duty.	1914.			1915.		
		Quantities.	Values.	Duties.	Quantities.	Values.	Duties.
<i>Wool's hair of the camel, etc. — Continued.</i>							
Class 3 — Donskoi, etc. — <i>Continued.</i>							
Wool, washed and unwashed	Free	106,676,797.00	17,919,335.00	Dollars. . . . .	Dollars. . . . .	Dollars. . . . .	Dollars. . . . .
Scoured (pounds)	Free	36,338.00	9,275.00	168	63,787,066.00	10,489,187.00	164
Camel's hair, Russian, washed and unwashed (pounds)	Free	2,933,976.00	536,445.00	255	30,636.00	11,410.00	372
Scoured (pounds)	Free	2,933,976.00	536,445.00	183	1,651,853.00	349,714.00	212
Total (pounds)	Free	109,647,111.00	18,465,055.00	10,479,979.00	10,855,615.00	10,855,615.00	166
Total (pounds)	Dutiable	21,125,123.50	2,925,469.00	1,077,833.57	1,38	1,38	1,38
Total, Class 3 (pounds)		130,770,234.50	21,390,524.00	1,077,833.57	164	65,479,979.00	10,855,615.00
Total wools, etc., unmanufactured	{ Free	291,188,066.61	62,431,087.14	214	298,630,076.00	66,581,908.00	223
	Dutiable	36,237,723.50	6,851,216.00	2,589,255.02	189	4,682,874.00	1,449,604.00
Total wools, etc., unmanufactured		327,420,790.11	69,282,303.14	2,589,255.02	212	303,312,900.00	68,031,512.00
						217,440.00	224

Wool's hair of the camel, etc. — *Continued.*

Class 3 — Donskoi, etc. — *Continued.*

Actual and
computed ad
valorem rate.

Manufactures composed wholly or in part of wool, alpaca, or the hair of the camel, goat, alpaca, or other animals—								
Wool and hair advanced in any manner, or by any process of manufacture, beyond the washed and scoured condi- tion, not especially provided for—								
33 cents per pound and 50 per cent. 44 cents per pound and 55 per cent. 8 per cent.	6.00	3.00	4.14	.50	138.00	• • • •	• • • •	• • • •
Wool at not more than 40 cents per pound (pounds)	145.82	222.00	186.26	1.52	83.90	• • • •	• • • •	• • • •
Vanned over 70 cents per pound (pounds)	22,441.00	25,050.00	2,006.40	1.12	8.00	15,760.00	• • • •	• • • •
Wool and hair advanced, etc.	22,392.82	25,305.00	2,186.80	1.12	8.68	15,760.00	• • • •	• • • •
Total advanced	22,392.82	25,305.00	2,186.80	1.12	8.68	15,760.00	• • • •	• • • •
Rags, mungo, flock, noills, shoddy, and waste—								
Mungo (pounds)	112.00	20.00	11.20	.17	56.00	• • • •	• • • •	• • • •
Ditto	4,300.00	200.00	15,612.20	.011	208.00	• • • •	• • • •	• • • •
20 cents per pound, Free	75,061.00	47,236.00	60.65	.33.04	33.00	• • • •	• • • •	• • • •
Nolls (pounds)	1,118.756.00	329,173.00	2.94	1,288.791.00	446,885.00	• • • •	• • • •	• • • •
Ditto, carbonized or others (pounds) . .	22,238.00	5,355.00	3.31	26.24	2,156,729.00	190,331.00	• • • •	• • • •
Rags and flock (pounds)	3,889,470.00	370,631.00	4.05	• • • •	32,635.00	4,034.00	• • • •	• • • •
Shoddy	234,890.00	36,575.00	1.56	• • • •	124	• • • •	• • • •	• • • •
Wastes—								
Slubbing, ring and garneted (pounds) . .	30 cents per pound { Free	78,555.00	29,423.00	1.20	.75	40.00	• • • •	• • • •
Top and roving (pounds)	20 cents per pound, Free	507.00	148.00	152.10	.37.4	139,908.00	62,456.00	• • • •
Ditto, and card (pounds)	514,638.00	122,628.00	2.95	102.77	71,215.00	16,451.00	• • • •	• • • •
Yarn, thread, and all other wastes and wool extract (pounds)	923.00	309.00	184.60	.33.5	59.74	• • • •	• • • •	• • • •
Ditto, and carbonized wool and wool extract	95.998.00	161,066.00	• • • •	1.08	• • • •	931,048.00	77,504.00	• • • •
Total rags, mungo, flock, noills, wastes, etc. (pounds)	6,797,257.00	1,049,716.00	1.34	• • • •	• • • •	847,694.00	• • • •	• • • •
Total rags, mungo, etc. (pounds)	6,899,082.00	1,104,857.00	18,185.10	.16	• • • •	• • • •	• • • •	• • • •
Combed wool or tops, made wholly or in part of wool or camel's hair—								
Made from hair of the Angora goat, etc. (pounds)	3,228,257.00	1,453,287.00	2,325.59	.45	111.11	3,412,250.00	1,770,917.00	519
Roving or roping (pounds)	67,337.00	11,356.00	2,271.20	.18	66,723.00	25,263.00	5,132.60	379
Total combed wool or tops, etc. (pounds)	3,301,056.05	1,467,110.00	234.00	.49	8.00	• • • •	• • • •	20.00
						3,478,973.00	1,798,180.00	516
						120,889.67	• • • •	• • • •

Imports of Wool and Manufactures of Wool, entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties. — Continued.

ARTICLES.	Rates of duty.	1914.			1915.		
		Quantities.	Values.	Duties.	Quantities.	Values.	Duties.
Wools, hair of the camel, etc. — <i>Continued.</i> Manufactures composed wholly or in part of wool, worsted, etc. — <i>Continued.</i>							
Yarns, made wholly or in part of wool — 27½ cents per pound and 35 per cent.	6.00	Dollars. 17.00	Dollars. 22.72	Dollars. Pr. ct. .279 133.65	Dollars.	Dollars.	Dollars.
Valued not more than 30 cents per pound (pounds)	105,741.00	67,969.40	67,888.12	.643 99.40	1,957,125.00	352,292.50	.725 18.00
Valued more than 30 cents per pound (pounds)	2,765,271.79	1,902,591.05	342,466.39	.687 18.00	2,716,021.00	356,552.00	.611 25.00
Made wholly or in chief value of wool (pounds)	465,012.00	266,883.00	68,720.75	.574 25.00	583,383.00	89,038.00	
Made of hair of Angora goat, etc. (pounds)	25 per cent	465,012.00	266,883.00	.574 25.00	583,383.00	89,038.00	
Total yarns	3,339,085.79	2,237,460.45	477,107.98	.957 21.32	3,299,404.00	2,313,677.00	441,320.50
Blankets —							
Valued not more than 40 cents per pound (pounds)	1,772.50	594.25	568.23	.335 95.62	1,10.01		
Valued more than 40 and not more than 50 cents per pound (pounds)	816.00	359.00	394.93	.44			
Valued at more than 50 cents per pound (pounds)	19,761.93	23,283.51	15,834.95	1.18 68.01			
Ditto (for construction and equipment of vessels)	2,755.00	1,500.00		.544			

Imports of Wool and Manufactures of Wool, entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties. — Continued.

ARTICLES.	RATES OF DUTY.	QUANTITIES.		DUTIES.	VALUES.	QUANTITIES.	DUTIES.		VALUES.	QUANTITIES.	DUTIES.		VALUES.
		QUANTITIES.	VALUES.				DUTIES.	DUTIES.			DUTIES.	DUTIES.	
Wools, hair of the camel, etc. — <i>Continued.</i> Manufactures composed wholly or in part of wool, worsted, etc. — <i>Continued.</i> Carpets and carpeting — <i>Continued.</i>													
Tapestry, Brussels, printed on the warp or otherwise (square yards)	{ 28 cents per sq. yd. and 40 per cent. 20 per cent.	882.00 7,848.25	Dollars. 5474.00 6,609.00	Dollars. 4365.56 1,321.80	Dollars. 5357 5210 20.00	Dollars. 237,308.00	Dollars. 143,878.00	Dollars. 28,775.60	Dollars. .606	Dollars. .606	Dollars. .606	Dollars. .606	
Treble ingrain, three-ply, and all chain Venetian carpets (square yards)	{ 22 cts. per sq. yd. and 40 per cent. 20 per cent.	758.00 9,432.00	Dollars. 853.00 9,449.00	Dollars. 507.96 1,889.80	Dollars. 1.13 1.12 20.00	Dollars. 59.55 4,733.00	Dollars. 4,724.00	Dollars. 994.80	Dollars. .998	Dollars. .998	Dollars. .998	Dollars. .998	
Velvet and tapestry velvet carpets, printed on the warp or otherwise (square yards)	{ 40 cts. per sq. yd. and 40 per cent. 30 per cent.	17,865.50 23,602.50	Dollars. 37,665.00 50,385.00	Dollars. 22,212.20 15,115.50	Dollars. 2.11 2.13 30.00	Dollars. 58.97 56,167.00	Dollars. 114,315.00	Dollars. 34,284.50	Dollars. 24,033	Dollars. 24,033	Dollars. 24,033	Dollars. 30.00	
Wool, Dutch, and two-ply ingrain carpets (square yards)	{ 18 cts. per sq. yd. and 40 per cent. 20 per cent.	18.75 164.00	Dollars. 31.00 148.00	Dollars. 15.78 1.65 50.00 20.00	Dollars. 1,320.00	Dollars. 1,312.00	Dollars. 202.40	Dollars. 1.97	Dollars. 1.97	Dollars. 1.97	Dollars. 1.97	Dollars. 20.00	
Carpets and carpeting of wool, and flax or cotton, not especially provided for (square yards)	{ 50 per cent. 20 per cent.	14,402.21 10,255.00	Dollars. 23,662.44 15,893.40	Dollars. 11,831.22 3,178.68	Dollars. 1.64 1.55 20.00	Dollars. 57,885.00	Dollars. 36,277.00	Dollars. 7,255.40	Dollars. 6.27	Dollars. 6.27	Dollars. 6.27	Dollars. 20.00	
Total carpets and carpeting		1,183,604.89	Dollars. 4,768,768.74	Dollars. 2,504,208.38	Dollars. 4.75	Dollars. 32,520	Dollars. 1,073,876.00	Dollars. 3,212,046.00	Dollars. 1,456,272.30	Dollars. 2.97	Dollars. 2.97	Dollars. 46.31	

Imports of Wool and Manufactures of Wool, entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties.—Continued.

ARTICLES.	Rates of duty.	1914.		1915.	
		Quantities.	Values.	Duties.	Quantities.
Wools, hair of the camel, etc.— <i>Continued.</i> Manufactures composed wholly or in part of wool, worsted, etc.— <i>Continued.</i> Dress goods, women's and children's, etc.— <i>Continued.</i>					
Valued more than 40 and not more than 70 cents per pound (pounds), Composed wholly or in part of wool— Weighing 4 ounces or less per square yard— Valued not above 70 cents per pound (square yards) Valued above 70 cents per pound (square yards)	44 cents per pound and 50 per cent less 5 per cent.	15,926.63	Dollars. 13,656.90	Dollars. 13,799.09	Dollars. Pr. ct. .558 100.98
Valued more than 40 and not more than 70 cents per pound (pounds), Composed wholly or in part of wool— Weighing 4 ounces or less per square yard— Valued not above 70 cents per pound (square yards) Valued above 70 cents per pound (square yards)	11 cents per sq. yd. and 50 per cent. 11 cents per sq. yd. and 50 per cent.	4,745.00	835.00	939.45	176.112.51
Valued more than 40 and not more than 70 cents per pound (pounds), Valued more than 70 cents per pound (pounds)	44 cents per pound and 50 per cent. 44 cents per pound, and 50 per cent.	2,015,200.84	527,745.80	511,932.28	.262 97.00
Dress goods, etc.— (square yards) (pounds)	{ 35 per cent.	{ 5,987,628.08	{ 5,582,112.00	{ 1,956,239.20	{ .924 28,352,921.90 { 7,063,407.00 { 2,472,287.30 { .249
Total dress goods (pounds)	6,907,167.75	3,223,144.92			{ 7,797,475.00 { 7,063,407.00 { 2,472,287.30 { .906
Felts not woven (pounds)	{ 44 c. p. lb. & 60 p.c. { 35 per cent.	{ 25,232.00 63,632.00	{ 31,567.00 74,957.00	{ 30,042.28 25,919.95	{ 1.25 93.17 { .16 83,317.00 { 97,913.00 { 34,269.56 { 1.175
Total felts	88,864.00	105,624.00	55,962.23	1.19 83,317.00	52.98 97,913.00 { 34,269.56 { 1.175
					35.00

Imports of Wool and Manufactures of Wool, entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties.—Continued.

ARTICLES.	1914.			1915.		
	Rates of duty.	Quantities.	Values.	Duties.	Quantities.	Values.
Wools, hair of the camel, etc.— <i>Continued.</i> Manufactures composed wholly or in part of wool, worsted, etc.— <i>Continued.</i> Laces, embroideries, etc., of wool— Laces, coach, carriage, and automobile						
60 per cent	10,156.00	Dollars. 6,993.60	Dollars. 60.00	Dollars. 1,275.00	Dollars. 765.00	Dollars. 60.00
All other laces, lace articles, embroideries, nets, etc.	49,094.00	29,242.20	60.00	36,349.00	21,899.40	60.00
Plushes and other pile fabrics— Valued more than 40 and not more than 70 cents per pound (pounds), Valued more than 70 cents per pound (pounds)	83.00 2,643.25	53.00 3,862.68	63.02 3,287.50	85.11 1,46	85.11	85.11
Plushes, velvets, and other pile fabrics, etc., made of wool (pounds), Manufactures in chief value of same	32,868.00 40 per cent	35,921.00 12,919.00	14,368.40 5,167.60	40.00 40.00	24,934.00 31,289.00	12,515.60 19,832.00
Plushes and other pile fabrics made of Angora goat hair, etc. (pounds), Articles made wholly or in chief value thereof	214,385.00 45 per cent	239,861.00 23,578.00	107,937.45 10,610.10	1.12 45.00	151,078.00 45.00	191,536.00 52,975.00
Total plushes, laces, etc.	316,194.68	141,434.67	141,434.67	141,434.67	333,256.00 333,256.00	153,032.75

Actual and
Value per unit
of quantity.

Manufactures composed wholly or in part of wool, worsted, etc.—*Continued.*

Laces, embroidery, etc., of wool—*Continued.*

Laces, coach, carriage, and automobile

All other laces, lace articles, embroidery, nets, etc.

Plushes and other pile fabrics—
Valued more than 40 and not more than 70 cents per pound (pounds), Valued more than 70 cents per pound (pounds)

Plushes, velvets, and other pile fabrics, etc., made of wool (pounds), Manufactures in chief value of same

Plushes and other pile fabrics made of Angora goat hair, etc. (pounds), Articles made wholly or in chief value thereof

Total plushes, laces, etc.

Actual and
Value per unit
of quantity.

Press cloth of camel's hair for oil mil- ling purposes, etc.	Free	129,004.00	62,804.00	• • • • •	.487	• • • •	157,105.00	79,094.00	• • • • •
Other n.o.p.f. per pound	10 per cent	14,232.00	5,984.00	598.40	.42	10.00	4,184.00	1,731.00	.414 10.00
Wearing apparel: Clothing, ready- made, and articles of wearing apparel, made up or manufac- tured wholly or in part, composed in chief value of wool —									
Gloves and mittens valued at not more than \$1.20 per dozen pairs (dozen pairs)	30 per cent	11,308.40	12,491.00	3,747.30	1.06	30.00	79,334.00	85,388.00	25,616.40 1.076 30.00
Valued at more than \$1.20 per dozen pairs (dozen pairs)	40 per cent	14,318.40	27,851.70	11,140.68	1.95	40.00	68,993.00	132,806.00	53,122.40 1.925 40.00
Hats of wool (pounds)									
{ 44 cents per pound { 35 and 60 per cent.	18,765.10	37,226.50	30,502.54	1.98	82.18	• • • • •	• • • • •	49,081.00	17,178.35 . . .
{ 35 per cent	20,655.99	7,229.28	35.00	• • • • •	35.00	• • • • •	• • • • •	• • • • •	35.00
Knitted articles (pounds)									
{ 44 cents per pound { 35 and 60 per cent.	215,437.63	301,339.97	275,618.54	1.40	91.46	• • • • •	• • • • •	136,059.00	47,620.65 . . .
{ 35 per cent	114,434.70	40,052.15	40,052.15	• • •	35.00	• • • • •	• • • • •	• • • • •	35.00
Shawls, knitted or woven (pounds)									
{ 44 cents per pound { 35 and 60 per cent.	3,626.14	4,085.50	4,046.80	1.13	99.05	• • • • •	• • • • •	11,146.00	3,390.10 . . .
Stockings, hose, and half-hose made wholly or in part of wool n.o.p.f., made on knitting frames (dozen pairs)	35 per cent	24,900.00	8,715.00	35.00	• • • • •	35.00	• • • • •	• • • • •	35.00
Valued at more than \$1.20 per dozen pairs (dozen pairs)	20 per cent	374.67	490.50	98.10	1.31	20.00	458.00	550.00	110.00 1.291 20.00
Selvaged, fashioned, narrowed, etc., finished or unfinished, valued at not more than \$1.20 per dozen pairs (dozen pairs) . . .	30 per cent	4,608.50	4,695.00	1,408.50	1.02	30.00	4,821.00	4,889.00	1,466.70 1.014 30.00
Other clothing, ready-made, and articles of wearing apparel, made up or manufactured wholly or in part (pounds)	40 per cent	23,843.47	58,124.16	23,249.66	2.44	40.00	64,774.00	163,438.00	65,375.20 2.523 40.00
{ 44 cents per pound { 35 and 60 per cent.	302,929.45	901,382.62	674,114.61	2.98	74.79	• • • • •	• • • • •	1,317,649.00	461,177.15 . . .
{ 35 per cent	732,320.31	256,312.11	256,312.11	• • •	35.00	• • • • •	• • • • •	• • • • •	35.00
Duty remitted									
{ 44 cents per pound { 35 and 60 per cent. { less 20 per cent.	12.00	61.00	33.50	5.08	54.92	• • • • •	• • • • •	14.00	• • • • •
{ 35-20 per cent	4.00	4.00	1.12	• • •	28.00	• • • • •	• • • • •	• • • • •	28.00
Total wearing apparel (pounds)		2,290,692.05	1,366,359.85	• • • • •	59.06	• • • • •	• • • • •	1,903,142.00	675,572.87 . . .

Imports of Wool and Manufactures of Wool, entered for Consumption, Years ending June 30, 1914 and 1915. Quantities, Values, Rates of Duty, and Accruing Duties.—Concluded.

ARTICLES.	Rates of duty.	1914.			1915.		
		Quantities.	Values.	Duties.	Quantities.	Values.	Duties.
Wools, hair of the camel, etc.— <i>Continued.</i> Manufactures composed wholly or in part of wool, worsted, etc.— <i>Continued.</i> Webbings, gorings, suspenders, bandings, beltings, bindings, braids, edgings, fringes, gimpes, cords, and other trimmings, etc. (pounds)							
50 cents per pound and 60 per cent. { 35 per cent.	12,796.61	31,415.89	25,247.57	86.37			
		4,505.00	1,546.75	35.00			
					5,781.00	2,023.35	35.00
Braids, loom woven or made by hand and ornamented, composed of wool. 60 per cent.		355.00	213.00	60.00	183.00	109.80	60.00
All other manufactures wholly or in part of wool— Valued not more than 40 cents per pound (pounds)	8,416.30	3,144.00	4,349.38	.374 138.34			
Valued more than 40 cents per pound and not more than 70 cents per pound (pounds)							
44 cents per pound and 50 per cent.	15,734.91	8,515.00	11,180.86	.341 131.31			
Valued more than 70 cents per pound (pounds)	87,318.82	154,928.97	123,631.22	1.77 79.80			

Actual and
Value per unit
of quantity.
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of quantity.
Actual and
Value per unit
of quantity.

All other — wholly or in chief value of wool	35 per cent.	604,933.20	211,726.62	35.00	330,432.00	115,647.00	35.00
Of the hair of the Angora goat, etc., 40 per cent.	40 per cent.	53,404.00	21,361.60	40.00	95,270.00	38,108.00	40.00
Total manufactures of wool	Free	1,115,160.00	44.40	44.40	929,408.00	33.51	40.00
Total manufactures of wool	Dutiable	32,404,639.04	14,387,241.33	14,387,241.33	28,950,213.00	9,701,771.96	33.51
Total manufactures of wool	Free	33,519,790.04	14,387,241.33	14,387,241.33	29,879,621.00	9,701,771.96	33.51
Total wool and manufactures of	Free	63,546,247.14	16,976,476.35	16,976,476.35	67,511,316.00	9,919,212.56	32.63
Total wool and manufactures of	Dutiable	39,255,855.04	16,976,476.35	16,976,476.35	30,399,841.00	9,919,212.56	32.63
Total wool and manufactures of	Free	102,802,102.18	16,976,476.35	16,976,476.35	97,911,133.00	9,919,212.56	32.63

THE TEXTILE BUREAU.

An office in connection with the work of the Textile Bureau, to prevent the fraudulent undervaluation of imported textile manufactures, has been opened on the sixth floor of the Singer Annex, 95 Liberty Street, New York. Every instance of imported goods sold here at prices that suggest a probability of undervaluation should be immediately reported to the Bureau at the above address.

JOHN P. WOOD,
Director.

BULLETIN

OF THE

National Association of Wool Manufacturers

A QUARTERLY MAGAZINE

DEVOTED TO THE INTERESTS OF THE NATIONAL WOOL INDUSTRY.

VOL. XLVI.]

BOSTON, APRIL, 1916.

[No. II.

FIFTY-FIRST ANNUAL MEETING OF THE ASSOCIATION.

THE fifty-first annual meeting of the National Association of Wool Manufacturers was held at Young's Hotel, Boston, on Wednesday, February 9, 1916, following the meeting at noon of the Executive Committee and a luncheon served for the members of the Association at one o'clock. Mr. John P. Wood of Philadelphia, the President of the Association, called the annual meeting to order, and informally reviewed in considerable detail the activities in which the officers and committees of the Association had been engaged during the notable year just concluded. He also discussed some additional fields of usefulness.

The report of the Nominating Committee was presented by Mr. Albert H. Chamberlain, of the Arlington Mills. The report offered the following list of officers for 1916:

OFFICERS FOR 1916.

PRESIDENT.

JOHN P. WOOD Philadelphia

VICE-PRESIDENTS.

WILLIAM M. WOOD Boston.

FREDERIC S. CLARK No. Billerica, Mass.

GEORGE H. HODGSON Cleveland, O.

SECRETARY AND TREASURER.

WINTHROP L. MARVIN Boston.

EXECUTIVE COMMITTEE.

ANDREW ADIE	Boston.
CHESTER A. BRAMAN	New York.
FREDERIC C. DUMAINE	Boston.
WALTER ERBEN	Philadelphia.
FREDERICK C. FLETCHER	Boston.
JULIUS FORSTMANN	Passaic, N.J.
HENRY A. FRANCIS	Pittsfield, Mass.
LOUIS B. GOODALL	Sanford, Me.
EDWIN FARNHAM GREENE	Boston.
JOSEPH R. GRUNDY	Philadelphia.
FRANKLIN W. HOBBS	Boston.
JOHN HOPEWELL	Boston.
GEORGE E. KUNHARDT	Lawrence, Mass.
CHARLES W. LEONARD	Boston.
JAMES R. MACCOLL	Pawtucket, R.I.
WILLIAM MAXWELL	Rockville, Conn.
J. F. MAYNARD	Utica, N.Y.
JOSEPH METCALF	Holyoke, Mass.
THOMAS OAKES	Bloomfield, N.J.
H. E. STOEHR	Passaic, N.J.
WILLIAM H. SWEATT	Boston.

The President inquired if there were any other nominations to be made. None were offered, and on the motion of Mr. Chamberlain it was voted that the Secretary be instructed to cast one ballot for the officers as nominated for the ensuing year. Thereupon the nominees were declared by the President to be duly elected.

The report of the Treasurer and of the Auditor, Mr. Clark, were read, accepted and ordered to be placed on file. The report of the Secretary was read and approved, and ordered to be printed in the Bulletin.

The Secretary made a verbal report on behalf of the Committee on Tariff Revision and Publicity, all of whose members were in distant parts of the country or detained by illness.

The recommendation of the Executive Committee was accepted by the annual meeting, providing for a special tariff committee of seven, of which the President should be a member and Chairman ex-officio, to make a careful study of the proper rates of duty on wool manufactures, pending another revision of the tariff — the Treasurer to be empowered to pay any necessary expenses of clerical, expert or other service which the committee might require.

The Secretary presented a report signed by Hon. William M. Butler on the work of an informal committee on "Open Competition," and it was voted that the matter be referred to the Executive Committee for such action as might be necessary and advisable — the special committee itself to continue its investigation and make a further definite report as to the plan involved and the probable cost.

The report of the Secretary was read as follows:

REPORT OF THE SECRETARY.

To the Members of the National Association of Wool Manufacturers:

As required by the by-laws of the Association, the Secretary herewith submits his report for the year ending with the last day of January, 1916.

Another calendar year has been passed under the low duties of the Simmons-Underwood tariff for revenue only. A year ago at our annual meeting your Secretary in his report said of the first twelvemonth under the new legislation that, "In the year just ended the woolen industry of America has experienced substantially everything that was feared and some things that were not apprehended. It has been a period to try to the utmost the sagacity and courage of manufacturers. It has witnessed an abnormal increase in the imports of foreign woolen goods, which, in the case of cloths and dress goods, have been three times in bulk and value the imports of the year preceding. Up to the outbreak of the European war on August 1, 1914, these imports of foreign fabrics were practically four times as great as they had been under the protective tariff policy."

This second year of the new tariff policy has witnessed a significant change and a marked improvement in the condition of the wool manufacture in the United States—because the natural effects of a non-protective tariff policy have been averted by events over which an American Congress has no control. Imports of foreign wool manufactures, while considerably larger than they were in the protective tariff years prior to 1914, have fallen to a figure that involves no serious distress to American manufacturing. This is due simply and wholly to the war in Europe, which has removed Germany, Belgium, and France from the field of competition, and has greatly reduced the export capacity of English and Scotch mills. Imports of wool manufactures into this country for the ten months ending with October last were valued at \$14,750,703, as contrasted with a value of \$39,517,603 for the ten months ending with October, 1914.

Furthermore, the abnormal purchases by belligerent nations not only of American munitions, but of American grain, provisions, metals of various kinds, leather and other essentials of a great war, have so widely stimulated trade and industry here that the American people have been rescued to a very great extent from the idleness and depression of the normal tariff-for-revenue-only months of 1914, and with restored employment have again become purchasers of woolen fabrics as well as of other manufactured articles of daily use. Thus both directly and indirectly the European war has proved the salvation of the American wool manufacture, for the time being at least. Foreign orders for military fabrics have continued to come to this country, though on a lessened scale, but they are far less important than the increased demand for fabrics for domestic consumption.

There is no misunderstanding whatever among American manufacturers as to the character of the present business revival and the real causes of the present contrast with conditions of a year ago. But there is still room for further improvement. On December 1, 1915, 16.8 per cent of the broad and 20.2 per cent of the narrow looms reported in the

course of our quarterly machinery canvass were still unemployed, as were 8.8 per cent of the woolen cards, 14.2 per cent of the worsted combs, 8.6 per cent of the woolen spinning spindles and 15.6 per cent of the worsted spinning spindles. At that period 1,860 looms and 167,993 spindles were reported to the Association as engaged on foreign military orders.

The war has brought serious embarrassment to the American wool manufacture in disturbing the inflow of indispensable materials and supplies of the industry. Since the annual meeting of a year ago, importation of British and Colonial wools has been satisfactorily arranged through the medium of the Textile Alliance, Inc., of which Mr. A. M. Patterson, a member of this Association, is the President, and in which this Association is an active influence. The organization effected by the Alliance in its New York and Boston offices has succeeded in supervising wool imports in a manner acceptable alike to merchants and manufacturers here, and to the British government. For some time the new plan has been working uneventfully, and importations have been very large, reflecting the improvement in business conditions in America. The Alliance has been unable to secure the sanction of the British authorities for the export of yarns to South America, but has effected an understanding by which yarns and tops can be shipped to the United Kingdom and its Allies and possessions, including Canada. South America, Canada and other countries, unable because of the war to secure their accustomed supplies of cloths and dress goods from Europe, have been purchasing a certain quantity of these fabrics in the United States. Whether this unexpected export business will survive the war must be left for the future to determine.

The situation as to dyestuffs is unfortunately more difficult than a year ago in spite of every effort to secure increased supplies of American production. For many months imports of German dyes have been wholly cut off, and though real progress has been made in increasing the output of American dye-making establishments, this has failed to meet the urgent

needs of American mills. A sufficient, properly balanced tariff protection for the dyestuff industry is an imperative need of the present time. Adequate capital cannot be secured until there is absolute assurance of protection after the war has ended. A committee of this Association, headed by the President, appeared at the recent hearing of January 14 and 15 on the Hill dyestuff bill before the Committee on Ways and Means in Washington, where a very strong presentation was made of the protectionist argument. The officers of the Association have been active in other ways in endeavoring to open all possible sources of dyestuff supplies, but the question has become an apparent deadlock between the British and German governments, and the only reasonable hope of relief seems to consist in a constant and large increase in the dyestuff production of the United States.

A situation already serious was made worse still toward the end of 1915 by the sudden action of the British government in prohibiting exports of logwood from Jamaica. The officers of the Association made an immediate presentation of the case to the State Department and to influential Senators and Representatives in Washington, and also invoked the assistance of the Textile Alliance. The Jamaica embargo has now been withdrawn, but it seems to be the part of prudence for American producers of logwood extract to draw a considerable part of their materials from other sources than Jamaica.

Since our last annual meeting an elaborate statement of the attitude of the Association toward the so-called pure fabric or labeling bills in Congress has been completed, published in the Bulletin and reprinted in pamphlet form for distribution to members of Congress and others interested. The officers of the Association have asked for hearings in case this subject is brought up for consideration by committees of the Senate or House, and are actively coöperating with representatives of other textile industries. The attitude of the Association as expressed in the printed argument is not one of hostility to any legislation, but rather of insistence that any measure that is enacted to prevent misrepresentation

in the sale of goods shall be just, practicable, and comprehensive.

Our quarterly statements of the woolen machinery active and idle in the United States and our monthly statement of imports of wool and wool manufactures have been continued throughout the year, and comparative prices of representative yarns and cloths have been presented in the quarterly Bulletin. Inquiry and comment indicate that these activities of the Association have commanded increased interest throughout the trade as a whole. The machinery returns and comparative prices depend upon proper coöperation from manufacturers consulted, and it is gratifying to record that this coöperation is more prompt and complete than ever before.

Some months ago the Executive Committee authorized the appointment of Mr. George L. Graham, a thoroughly experienced railroad man, as the general traffic representative of the Association. Mr. Graham has entered upon his duties and is now engaged in an important effort to secure a reduction of rail rates on wool from the Far West and in other work of interest to all manufacturers. This is a new opportunity for a particularly definite and valuable service, and the Association stands ready to assist its members with their traffic problems in any section or any State.

Publication of articles of a technical nature has been made from time to time in the quarterly Bulletin, and several other articles of this character are now in hand. The Association has prepared again this year a comprehensive review of the wool production of this country and the world, and has maintained a careful record of standard wool prices. The office of the Association is constantly employed in meeting inquiries from the government, from manufacturers and merchants and from the members, and it is believed that the amount of information of this kind furnished has been much greater than ever in the year just closed. It is our policy to respond to every request of this kind if it is in any way practicable — believing that this is one of the most valuable purposes which the Association can serve in disseminating

exact knowledge in regard to what is now one of the greatest of national industries. Throughout the year a careful record has been kept of developments that may be of assistance in the shaping of a new protective tariff law, to which business men in all trades and all sections of the country are confidently looking forward as the sure foundation of normal and enduring prosperity.

I wish to express again my obligation to the officers and members of the Association for their cordial assistance in all the work which our office has undertaken, and as I ventured a year ago the hope that the new year might bring some brightening of the business skies, so now I close with the further hope that there may come speedily to our own and all other American industries a good fortune dependent on something else than the vicissitudes of a terrible war. But against the ending of this war there is the utmost imperative need that this country of ours should be even more quickly and thoroughly prepared than against the remoter danger of armed invasion.

Respectfully submitted,

WINTHROP L. MARVIN,

Secretary.

ANALYSIS OF WARP FAULTS.

By HOWARD PRIESTMAN.

THE following article may be taken as a supplement to the one which appeared in the Bulletin for October, 1914. In that article particulars were given regarding several remarkable faults, and of the analyses that were necessary to discover their causes. By that means I did my best to make it clear that there are many analogies between chemical analysis and the analysis of textile fabrics. This is more particularly true when the object in view is the discovery of the causes of a fault. Such discovery must then be of so complete a nature that the fault may be avoided or eliminated in future. A textile analysis, like a chemical analysis, must be based on a number of tests; each of which is to be made with a definite purpose, to obtain some definite piece of information. This is of course mere platitude, but it is far from being a platitude to say that the man who makes them must understand the most delicate meaning that each separate test may convey. Just as the chemical analyst must be able to think with accuracy in terms of chemistry, so must the textile analyst be acquainted with the action and reaction of one thread on its neighbor or of one quality of fibers on another, and of the mechanical processes by which the yarn has been made. Without the ability or without sufficient knowledge to do this, the more obscure problems of the textile trade are likely to remain undiscovered, unless they should be disclosed by one of the fortunate accidents that *sometimes* happen in the making of cloth. In practice these however fortunate accidents do not often happen in obscure cases.

The last illustration in my first paper on this subject had reference to a curious alternation of harder and softer places, which combined to form bars across the piece. A straightforward testing failed entirely to show any fault at all, but patient examination disclosed the fact that alternation existed

in a marked degree and when the alternations were located, the results of simple tests were startling in their contrast.

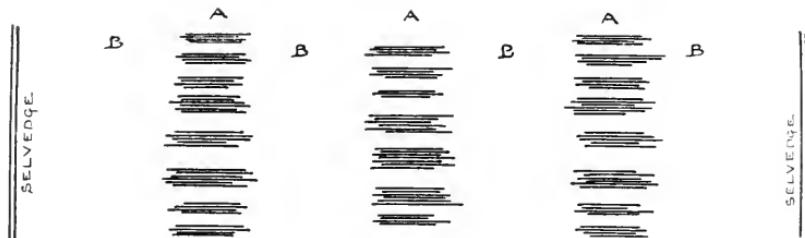


FIG. 1.

Diagram of piece in which hard places in faulty yarn were only visible at 3 points, A A A. Invisible, because they cancel one another at B B B B.

If this fault did not recur, that is to say, if it had only once been observed, its peculiarities might have been dismissed as being too unusual to be worthy of further investigation, but in my own experience it has cropped up three times. That is to say, this identical arrangement of irregularity in twisting has occurred three times, which means, in other words, that the wave length of the fault, or the distance from the center of one hard place to the center of the next, has been almost exactly half the width of the piece in three different instances. But this is not the only peculiarity. The fact that the two hard places come exactly midway between the selvages and the center make it look as if the wave length coincided *absolutely* with the reed width of the piece, and that the hard twist invariably recurred in one place. To try to believe any such thing is to put too great a strain on a thinking man's credulity. The twist figures show with precision that if consecutive picks are tested say at A (Fig. I.), the amount of twist rises and falls with remarkable regularity through a series of ten or twelve consecutive picks, but it also shows that in each pick there are four alternations from hard to soft, or vice versa. At the place B, where no fault is ever visible, one can only come to the conclusion that the hard and soft places must alternate and cancel one another. As a matter of fact, this is easy to estab-

lish, there being fairly regular alternation from hard to soft, with occasional places where two hard or two soft picks coincide.

This practically establishes it as a fact, that the irregularity is quite steadily continued throughout the entire length of each faulty bobbin, and it therefore eliminates the necessity of looking for and locating some spasmodic fault which only made itself visible and turned out irregular yarn at considerable intervals of time, having made perfect yarn in the space between.

The writer is sorry to say that his education in the region of mathematics or mathematical physics has not qualified him to propound a complete theory in regard to the regular occurrence of the visible fault in exactly the same position in every piece in which it has appeared. The fact that the same arrangement is invariably visible, no matter what may be the counts or the nature of the material, goes a long way to show that the whole arrangement is governed by some absolute law, which it would be of the utmost importance to discover. In all cases the bars show plainly along certain sections of the warp. From one visible section to the next position where the fault can be seen the color of the bar always reverses. Over and above this curious type of distribution there is another peculiarity. The width of the narrow bars varies a great deal. In my silk sample the narrowest sections are less than one-fifth of an inch wide weft way, though the widest are nearly half an inch. In worsted coatings the narrow bars consist of about fifteen picks, or one-quarter of an inch from pin to pin, though sometimes there may be sixty picks in a similar but wider bar.

The reason for this alteration in the width of the different bars is the most obscure part of an obscure problem. Fortunately the obscurity does not extend to the cause and nature of the fault, but only to the means by which a regular variation in size and twist can produce a pattern of such a peculiar nature.

I have dealt with what may be called the mathematical portion of this trouble in some detail, because I am under

the impression that there is some analogy between the case I have quoted and one which is far more difficult to understand.

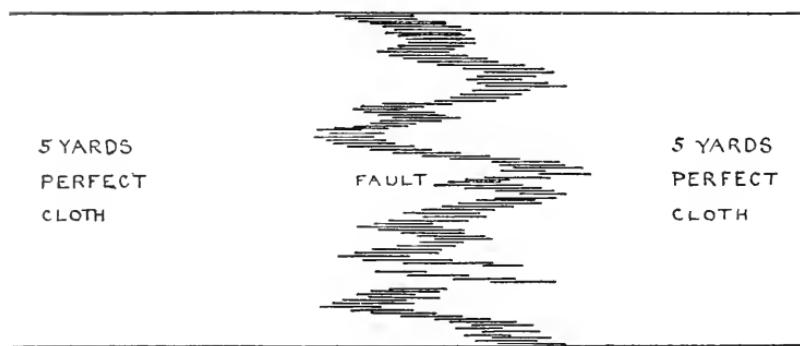


FIG. 2.

Diagram of a fault like a watermark, caused by excessive irregularity in the twist of the warp threads at certain places.

It came to me thus in November, 1909. A piece of plain weave cashmere made from two-fold worsted warp and two-fold worsted weft was returned by the dyer with a kind of watermark right across it, once in every five yards or so.

This mark seldom extended as much as half a yard along the piece, which was then perfect for five yards. The dyer, who was also the finisher, accepted responsibility, believing that one of his large brass pressing rollers had been injured or was slipping; and to make quite sure of avoiding the fault again, he had the roller taken out and skimmed up. He took the piece back, refinished it and found to his horror that it was worse rather than better for the process. The pieces were submitted to several authorities in the trade and finally brought to my chambers for examination.

When the piece lay flat on the table before a good light the mark was as plain as the proverbial pike staff, but when seen from one side it looked darker than the rest of the piece. From the other side it looked lighter. Now it is a well known axiom to all who have much to do with textile faults that apparent change in the color of a fault when viewed from two opposite angles is certain sign that the

defect in question is due to some twist fault. It may be in the single or it may be in the folding, but variation in twist it must be.

In this most favorable light the position of the watermark was made permanently visible by reddening it with a pencil. Each thread composing it was then carefully taken out of its place and was with equal care tested for twist. The result of this testing was apparently simple enough. A series of faulty threads which were adjacent to one another gave the following turns of twist per inch:

In Watermark.		Normal Yarn.	
Twist in Single.	Twist in Folding.	Twist in Single.	Twist in Folding.
15	12	26	20
16	13½	25	24
18	12	24	18
23	14	24	18
12	11	27	13
19	11	27	21
18	13	25	17
Total, 121.0	—	178.0	131.0
Average, 17.3	12.3	25.4	18.8

These figures of course show that there was a serious spinning defect in the yarn, which was the sole cause of the fault, but the length of each hard twisted place was so short that the fault could not possibly be attributed to the twisting apparatus on either the spinning frame or the twister. The simple fact is that something caused the rollers to draft the roving irregularly in such a way as to cause periodical small places, into which the twist would run automatically. As was stated in the previous article, there is an absolute law which causes the twist to run into thin parts of the yarn, until they have absorbed so much from the thicker portions that the pitch of the twist is the same in both; or in other words, till the relation of turns to diameter is the same.

Having now ascertained the simple facts of the case we are in a position to consider the complicated combination of circumstances that went to produce the mark in every section of the warp at once at intervals of five yards. To begin with, we may take it as an axiom that no frame could produce a very thin place once and then make five yards of perfect yarn. As was proved to be the case in the weft fault already mentioned, there can be no doubt that the fault recurred at regular intervals of a foot or eighteen inches. That is to say, the underlying fault was simply bad spinning and the yarn was therefore very twitty. The peculiarity of the fault consisted in its only showing once in five yards. It is almost certain that all through the perfect parts of the cloth that fault continued, but that for the whole five perfect yards every hard thin place came side by side with two thick soft places which literally buried it when the soft yarn swelled in the finishing process.

Only at the end of five yards did it happen that the irregularities coincided. The hard places grouped themselves together and then at once became visible. Such at least is the only theory that can be advanced to explain the facts as they appeared in the first section of the warp. The assumption may be right or it may be wrong. It is certainly a debatable point.

Of one thing, however, there is no doubt. The fault recurred at exactly the same place in each section of which the warp was composed; a fact which is in itself almost incredible. It would not have been hard to believe that a fault might occur at a certain distance from the end of each bobbin, and that when bobbins from the twist frame were wound on to barrels the fault would still be the same distance from the end or beginning of every thread. Such a thing is by no means unlikely. We therefore accept the facts for the first section without incredulity. What we have to accept is the almost unthinkable fact that when one section had been run on to the beam the fault was exactly the same distance from the cut end of the yarn as it had been from the end of the yarn on the new bobbin. After each section had

been run, the relation of the fault to the beam remained the same, and hence it occurred in a wavy line right across the finished piece.

Now these facts without an explanation may seem at first sight to be of little value. Their positive value may be very small. They contain, however, a negative value that is well worth careful noting. They prove beyond all possibility of doubt that trains or combinations of circumstances may occur to the detriment of a manufacturer or spinner over which he may seem to have no control whatever. Perhaps it would be more correct to say that accidental combinations are always at work covering up slight faults of various kinds. Then, as in the present case, there will come a fault the length of which, as it was made in the spinning, coincides, by some strange accident, with the length of the warp or the width of the piece, and from that very simple cause a series of bad places are put side by side. In other words, it is grouped faults only which show as a rule; and it may be that a keener study of the laws of grouping would amply repay the time spent upon it.

It is because these problems are incomplete that they have been treated thus early in the paper. They are given to those who are interested in such subjects as problems of which the final answer is still wanting. The reason of the fault is discovered. The why and wherefore of the grouping is still as far as ever from solution. It is the writer's opinion that no problem is properly bottomed until it lies in the power of a spinner or manufacturer to make a given fault at will.

Only one piece of the writer's work fulfils this description in its entirety. The discovery of the cause may interest the analytical reader. A knowledge of the facts alone will be of interest to the practical man and the synthesis by which the obscure fault was reconstructed may give a new view to those who deem theory but an empty pursuit.

It has been well known in Bradford for many years that certain types of Sicilian cloth are liable to great streakiness in the warp for reasons that were very far from obvious.

Careful investigation had failed to find an adequate cause for the trouble, and the only remedy that had proved successful in any marked degree was the making of each warp in splits and the careful dressing of them end and end. It was an inarticulate effort to combat the theory set out above, that faults only show when they occur in groups, the idea being that the dressing end and end of four entirely separate balls of warp would tend to split up every group of faulty threads by the interposition of others. Unfortunately it left out of account the fact that four small splits of warp might be made from one set of bobbins and that, in that case, if the warps were dressed the same side up the beam would go to the loom having four threads from each bobbin lying side by side. In any case it threw but little light on the coming trouble.

In the autumn of the year 1913 my attention was called to some tinted black Sicilian in which these bars were more clearly defined than any that I had seen before. The whole width of the piece was, in fact, divided into three sections, each of which was dark on one side and light on the other. This fault continued for five yards or more down the piece and then disappeared, only to reappear a little further on. The first examination to which the cloth was submitted was a complete analysis of six square inches; three taken from the three darkest portions and three from the light places adjacent to them. Amongst other things these analyses showed that in the bars there were:

Dark.	Light.
59½	58 threads per inch.
59	" " "
58	56½ " " "

This made clear the extraordinary fact that the sett of the cloth varied in different parts of the piece by over 4 per cent. The fact is extraordinary, because five yards further down the piece there were no variations in sett at all. As my first endeavor was to prove the fault was not one of dyeing, I had the whole of the color stripped from the fabric. When

that was done, the sett still continued to vary in exactly the same way as was the case when the cloth was black. This experiment made one thing absolutely plain ; that is, that the fault had nothing whatever to do with the alteration of color or with the original setting of the cloth in the loom.

The figures supplied by the analyses also showed that the weight of the warp in the dense sections was actually less than it was in the places where the sett was more open ; but at the time no one realized that the two things had anything to do with one another. All that came of the examination was the knowledge that the fault was not one of color ; the apparent difference in shade being due to the different amount of light reflected, and to that only.

The whole thing was then left in abeyance until the spring of 1914, when the same fault recurred at another house. Fortunately, in this case, two pieces were submitted to me sewn together for treatment at one time. One was perfect but the other was faulty. Both had been through the crabbing together, and it was therefore clear that neither rolling nor crabbing had anything to do with the fault. The process of elimination was gradually removing one process after another, in which it was proved that the fault had not occurred. In this case also a piece was boiled and tentered to see if the fault could be removed in that way. Three very strongly marked bars were taken out by this simple treatment.

The information which supplied the key to the whole situation came from a fourth house, which had not previously had anything to do with the question. It was the firm which dyed the warps from which the cloth was woven. The experiment they suggested was the cutting of the warp and extracting it from the weft without in any way disturbing the arrangement of the picks. After this delicate operation had been completed it was easy to see in an oblique light that a strongly marked warp bar a quarter of an inch in width continued right across the whole of the picks from which the warp threads had been taken. As it had already been proved that the fault was not one of color, and as it was

plainly visible in the weft threads alone, this afforded complete proof that the whole fault was due to a difference in the amount by which the weft rose and fell in the light and dark portions of the piece. I was aware that the tension of the warp was apt to vary in different places, and the facts that were now at my disposal made it almost certain that where the warp was very tight, the weft would be bound to rise and fall to a greater degree than in places where the warp was slack. Such rising and falling would naturally tend to pull the warp threads together, and would thereby alter the sett of the warp itself.

It must be remembered that the luster of Sicilians is obtained by the application of great tension to the warp in finishing, so that the warp threads lie almost straight along the finished piece, with the weft rising and falling above and below. The facts now at my disposal seemed to give absolute proof that variation in tension on different groups of warp threads would not only alter the color of different parts of the piece, but would also very materially alter the sett of the cloth in the way above described.

It was this information that made me at once turn back to the first sample in order to see if I could obtain any proof of alteration in the tension of the warp in that case. I surmised that by wetting the samples before I tested I should obtain figures which would bear strong resemblance to the condition of the yarn before the piece was finished. The results are given below:

TABLE I.
Length of Yarn in 338 mm. of Cloth.

DARK BAR.		LIGHT BAR.	
Tested Dry.	Tested Wet.	Tested Dry.	Tested Wet.
345	348	350	355
347	349	349	354
345	350	350	355
346	347	347	352
345	349	349	353
344	348	349	355
349	347	350	354
345	346	349	354
345	350	348	355
346	348	349	352
Total length of warp, 345.7		348.2	349.0
Difference, 338.0		338.0	338.0
Take up of yarn, .77		.102	.110
			.159

These figures show that there was a difference in take up of no less than 56 per cent between the warp threads of the dark sections and those in the light, in the parts of the piece where the fault showed. In the perfect portions the tension was alike in both. In other words, there had been a difference of 56 per cent or more on the tension on the different threads in the warping process. In theory the alteration was easy to explain. For some reason the different bobbins that composed each section had a different amount of drag on them so long as the warping mill was running. Each time it stopped all the bobbins over ran, some slack yarn was paid out and all that yarn was naturally of one tension, until the mill was once more running at full speed.

Such was the conclusion of a theorist, but none of the disputants would accept the verdict until absolute proof had been afforded.

Some interval elapsed before it was possible to construct a warp that would show the fault in all its peculiarities, but in May, 1914, the thing was done.

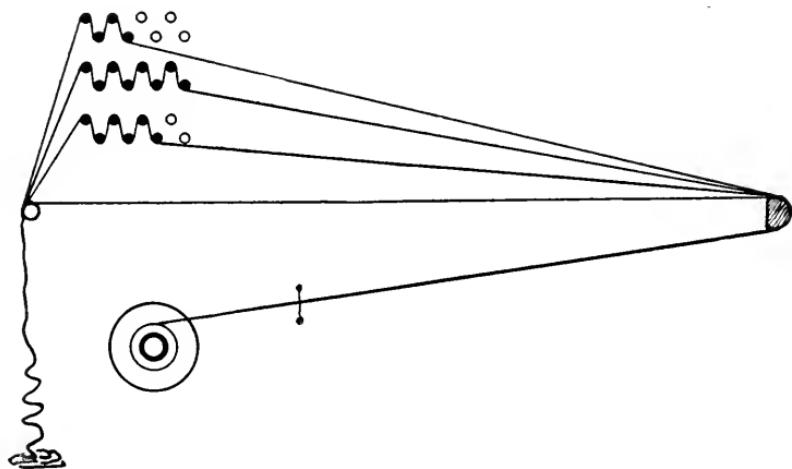


FIG. 3.

Diagram representing the dressing of three sections of one warp on to the same beam at different tensions.

Four perfect warps were procured, each of them being twenty-five yards long, each composed of six hundred ends. These warps were all dressed on to a beam side by side, not end to end. But to each of them a different tension was applied. One went over four ends of a raddle, the next over eight, the third over six and the last over none. This produced a warp of which the last section was twenty-five feet long, and next twenty-six feet, six inches, the second was twenty-six feet and the first was twenty-five feet; the differences in the various sections being twelve inches, six inches, and eighteen inches respectively. This tension was applied continuously until the ends ran out of the raddle. For the six or seven yards which had to be wound on to the beams after the warps had run out of the raddle (or double the length of the dressing frame), there was naturally the same tension on every section. This part, with uniform tension being on the top of the beam, was woven first. The whole of this cotton warp was filled with luster weft in the ordinary way, in the loom. In the gray piece no fault of any kind could be seen. There was no difference of sett and a total absence of marking.

As soon, however, as the finishing process began, most interesting developments occurred. The piece was scoured and stretched in a four-hole machine, its gray length of about twenty-three yards being extended by tension to the original warp length of twenty-five yards. It was then run on to a roller and thoroughly crabbed with steam. In these two processes, but before tinting, a very strong stripe developed where the tension had varied by eighteen inches. Where the variation was twelve inches, the stripe was distinct but less marked, whilst there was no visible stripe in the center of the piece, where one section was only six inches longer than the other.

The most interesting feature of the whole experiment was the gradual extinction of the marks towards the end of the warp, that is the beginning of the piece. The different tension of the sections which continued for seventeen or eighteen yards, communicated itself to the unstretched portion at the end, and the marks therefore died away exactly as they did in the first piece in which I saw the fault. With the warp black and the weft pure white, the marks showed as would be expected in an oblique light only, but the fact that they did show, in the plainest possible way, was a clear indication that dyeing had nothing whatever to do with the fault. The set of the piece had altered, but until the weft was dyed this alteration was hardly visible when looking through the piece towards the light.

By dyeing a portion of the piece black the experiment was completed, every peculiarity of the original fault being discoverable in the new piece. Even in this state the center division, where the tension was only altered by two-thirds of 1 per cent, the fault was hardly visible at all, but at the other two alterations there was now a strongly marked contrast when looking through the piece.

Complete analysis of two separate square inches cut side by side at a distance of only half an inch from one another gave figures strangely similar to those of the first faulty piece. They were as under :

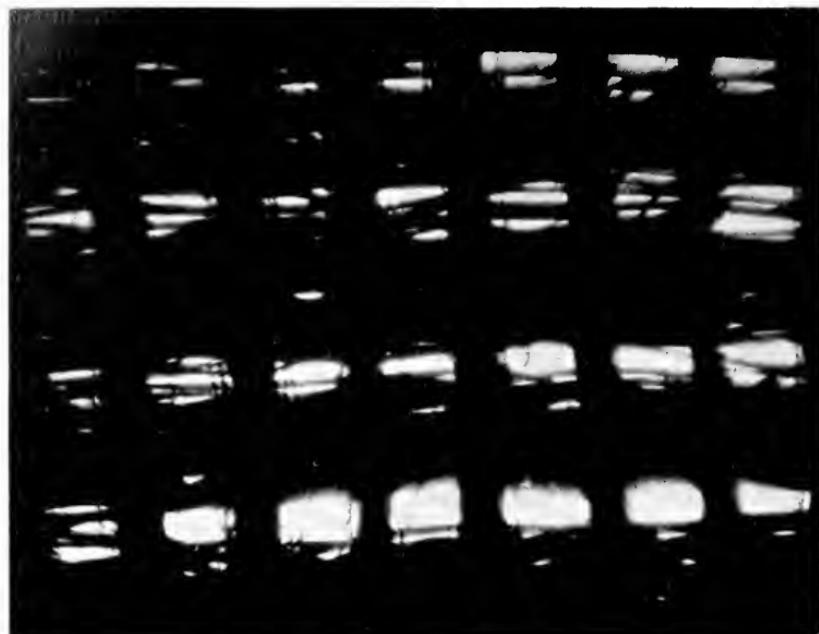


FIG. 4.

Micro-photograph of dark bar with $48\frac{1}{2}$ threads per inch.

IN THE DARK BAR.

1 square inch = 1.20 grs. = 3.54 oz. per square yard.

$48\frac{1}{4}$ warp threads = .23 " = 2/96.7 cotton counts.

45 weft picks = .97 " = 1/16.1 worsted counts.

Warp tension 725.0 mm. in 717 mm. of cloth.

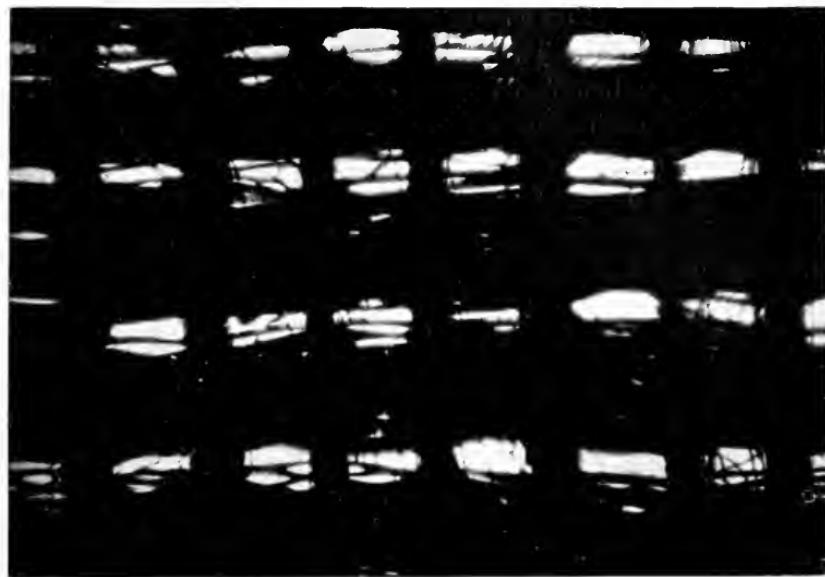


FIG. 5.

Micro-photograph of light bar, showing nearly 3% wider spacing than in Fig. 4.

IN THE LIGHT BAR.

1 square inch	= 1.16 grs.	= 3.43 oz. per square yard.
47 warp threads	= .22 "	= 2/98.5 cotton counts.
45 weft picks	= .94 "	= 1/16.6 worsted counts.
Warp tension		731.6 mm. in 717 mm. of cloth.

With the exception of the warp counts every figure regarding these two square inches is absurdly near to those which were expected. There are nearly 3 per cent more warp threads in the dark than there are in the light section; the weft is thickened by just over 3 per cent; and the total density of the cloth was increased by 3.3 per cent. The figures for warp tension, which were taken from larger pieces of cloth, do not coincide so nearly with theory. The actual stretch of the tightest warp was eighteen inches in twenty-five yards or 2½ per cent. This 2½ per cent does not all show after finishing.

It is a well known fact that cotton which is properly set

by high temperature steam will never revert exactly to its original condition. This fact is clearly proved in this case. The difference between 725.0 and 731.6 is only 0.9 per cent, and it may therefore be taken for certain that the variation in tension in the original piece of faulty cloth must have been greater than that which was applied in the experiment, because in the original there was a measurable difference of 1.62 per cent, which is the margin between the figures 348.2 and 353.9 as they are given in Table I.

Such is the simple history of the most complex fault which has yet been purposely reconstructed, in order to prove that theories are something more than empty ideas. It is fair to say that other obscure warp faults have been more easily brought home because in two or three separate instances bad workmanship was detected whilst the machinery or the operatives were actually making it. But there are still many other faults, about which there is much to be learned, and it is suggested, in order to clear them up, that work on the above lines should be undertaken by some one who has both time and machinery at his disposal.

SLOW PROGRESS IN DYESTUFFS.

DEVELOPMENT OF A NATIVE INDUSTRY BALKED BY THE POWERS IN WASHINGTON.

THE problem of dyestuffs for the use of the two million American workers engaged in the textile and other industries where artificial colors are essential remains as urgent and unsolved as it was three months ago. No argument, no entreaty, from thousands of manufacturers and this army of wage-earners, North, South, East and West, has at this writing been able to move the anti-protectionist majority of the Committee on Ways and Means or the anti-protectionist leaders of this National Administration. Great Britain has subsidized a native dyestuff industry to the amount of \$15,000,000, and is considering still further and more generous assistance. Japan has guaranteed 8 per cent dividends to Japanese capital invested in dyestuff and explosive plants on Japanese soil. France and Russia are both giving direct encouragement to the dyestuff industry within their borders. The only government that halts and flounders is that of the United States.

In the quarterly Bulletin for January there was an account of the hearings before the Committee on Ways and Means on the Hill protective dyestuff bill (H.R. 702). Those arguments then presented seemed to the country to be unanswerably in favor of the immediate enactment of legislation providing a protective duty on finished dyestuffs and a proper duty on intermediates. For some weeks it was assumed that the committee would respond, but three months have passed and it has not done so. There is a growing belief that it does not intend to act in any adequate way, but that the anti-protectionist majority in Congress and the anti-protectionist Administration will remain the stolid bulwark of the German dyestuff and explosive monopoly — to the grave injury of great national industries and to the hazard of the national defence.

In a powerful speech February 14, 1916, to the House of Representatives, Mr. Hill of Connecticut, the author of the dyestuff bill, declared that he knew of "no more humiliating fact connected with our national economic policy than that to-day the United States of America is compelled to humbly beg from the German government the poor privilege of buying from a chemical factory in Charlottenburg the dyestuffs needed to print our money and make our postage and revenue stamps, and that such consent is only granted on condition that the State Department shall make a cash purchase in its own name for governmental use only, to guarantee that they shall not be used for commercial purposes. Having purchased and paid for them by the consent of a German King, this great nation of a hundred million people must then forsooth humbly beg from an English King the poorer privilege of having them transported in a neutral ship, from a neutral port, across an ocean which we had fondly believed to be free to every neutral power for non-contraband of war. . . . Is it not high time for the American people to issue a new declaration of industrial independence?"

Mr. Hill went on to remind his fellow-lawmakers that Congress had already been notified that the color of the uniforms of United States soldiers and sailors must soon be changed unless some relief from the existing dyestuff famine was speedily secured. "If this war is long continued and the chemical plants on the Rhine should, perchance, be destroyed," he inquired, "who knows but that this nation might ultimately be compelled to change the color of the national flag?"

An accrued loss of \$430,000,000 was the estimate of Mr. Hill of the result of the dyestuff famine up to date in all American industries affected. For thirty years, he said, the world had paid tribute to German monopoly—with the result that manufacturers were now bringing dyes from the interior of China and paying \$7.50 a pound for what in normal conditions would be sold at 20 cents per pound. The prices of many dyestuffs had advanced 2,000 or 4,000 per

cent. One manufacturer had testified that his firm in 1915 paid \$300,000 more for the same amount of dyes than was paid in 1914. Old typewriter ribbons and carbon papers were being gathered from the paper-stock warehouses and the dyes reclaimed and sold for \$15 a pound. A single keg of aniline dyes which ordinarily sold at \$15 was disposed of at auction recently for \$1,560.

A review of the various phases of tariff legislation in regard to aniline dyes was presented by Mr. Hill. In the tariff of 1864 aniline dyes were made dutiable at \$1 per pound and 35 per cent ad valorem. The tariff of 1870 lowered this duty to 50 cents per pound and 35 per cent ad valorem. At that time an American dyestuff industry was developing, and in 1882 there were about a dozen assembling works in the United States. But the tariff of 1883 removed the duty of 50 cents per pound, leaving only the ad valorem rate of 35 per cent, while the raw materials, both crude and intermediate, were made dutiable at 20 per cent ad valorem, "and as a result the whole industry practically faded away in a single year." In 1894 the ad valorem rate was reduced to 25 per cent and advanced again to 30 per cent in 1897. This was wholly insufficient to meet the powerful German monopoly, and in the tariff revision of 1909 Chairman Payne attempted to provide a protection sufficient to reëstablish the coal tar dye industry in this country. As a necessary sequel a patent working clause was prepared, requiring the working of German patents here or of forfeiture of them as a penalty. But the German government, realizing the effect of this, managed to conclude the Bernstorff treaty, which was negotiated before the tariff bill could get out of the House of Representatives. This treaty nullified the patent working clause, "was a complete surrender to Germany in coal tar dyes, and left to her her precious monopoly and almost unlimited facilities for producing an inexhaustible supply of high explosives, with no rival in the world who could compete with her in that respect."

The "strangle-hold" which Germany possesses upon the United States is clearly shown in this testimony of Dr.

Beckers, for years a director of one of the large German dyestuff corporations — as quoted by Mr. Hill :

DR. BECKERS. There are two large combinations in Germany which include every dyestuff manufacturing establishment of that country, and these two large combinations have agreements to the effect that all profits are divided up between them.

MR. HILL. And if they should desire to remove the competition afforded by the dyestuffs that you are manufacturing here in Brooklyn, regardless of cost, they would simply cut their prices to the point where you could not meet them, and the expenses involved would be distributed among the companies forming the combination?

DR. BECKERS. They would. They would lower the prices so that we could not manufacture any more in this country, and they could do so because whatever they lose here they can make up by charging it to their Russian, Chinese, or other trade.

“I think it will be conceded by all familiar with the facts,” declared Mr. Hill, “that not only has the American industry been smothered by unfair German methods of competition, but that it has been openly and avowedly done to the intent and purpose, first of preventing an equipment for defence by this and other nations, and, second, by ultimately controlling the world’s trade in textiles and other products into the manufacture of which dyestuffs and other chemicals enter.”

“Free trade,” continued Mr. Hill, “will not provide a remedy now, for there is no place on earth from which to draw supplies, and we are forced to rely on a guarantee now of protection for our own people after the war is over, when the piratical competition of the past will be again renewed.”

Mr. Hill objected to the anti-dumping law as ineffective, because the importation of articles billed at cost and a fair profit added is not dumping but is legitimate trade which cannot be penalized, and if it were penalized it would instantly involve us in a trade war. Germany can undersell us in dyestuffs without dumping. An anti-dumping law is worse than useless if there is no domestic industry to protect.

The present customs administrative act, if its provisions are enforced, is an anti-dumping law already, and the provisions of our anti-trust laws do not run beyond the three-mile limit, so that any attempt to make criminals of citizens for buying as cheaply as they can abroad is ridiculous. The best preventive of dumping and undervaluation of imports, Mr. Hill insisted, is a complete system of graded specific duties such as was worked out by the German Tariff Commission through six years of hard study.

The only real relief was to be found in the proposed protective legislation based on the report and recommendations of the American Chemical Society, whose conclusions, summed up, were as follows :

A. To prevent the unfair underselling alleged to be practised by foreigners in this country, the adoption of an effective anti-dumping clause.

B. The so-called coal tar "intermediates," which are the basis of the coal tar chemical industry, inclusive of explosives, medicinals, and dyestuffs, should be assessed one-half of whatever the finished dyes are taxed for tariff purposes ; all coal tar dyes, without exception, to be taxed alike, namely, 30 per cent ad valorem and $7\frac{1}{2}$ cents per pound specific.

C. Changes in the patent laws, such as by compulsory licensing or compulsory working clauses are wholly ineffective, do more harm than good, and should not be attempted.

Your committee recommends that this report be submitted to the appropriate committees of Congress.

Mr. Hill explained that the probabilities were that a year's importation under the proposed bill would give an equivalent ad valorem of 35 to 40 per cent on the rates of duty, instead of 30 per cent as now, because imported dyestuffs would come in as highly concentrated products. The added cost of the increased duty to woolen, silk, cotton, leather, and hosiery industries had been estimated at one-thirtieth of a cent a yard. Mr. Hill quoted Dr. Beckers, of the Beckers Aniline & Chemical Company, to the effect that the proposed new duty was sufficient to create a healthy industry, and that if the bill passed, instead of three-quarters of a million

dollars in capital at his disposal, he would have at least from four to five million dollars. Mr. Schoellkopf, of the Schoellkopf Aniline & Chemical Works, Inc., of Buffalo, was quoted also as saying that, "We stand ready to put in a million dollars as fast as we can get it in, and more if necessary, if we feel there is going to be a permanent industry built up. If we cannot feel that way, we believe we have put in about all we ought to put in."

In answer to a question as to how large a proportion of the necessary supplies of dyestuffs was now being made in the United States, Mr. Hill said that before the war about 3,000 tons a year were being produced here; that the profit on what had been made since had been put into an expansion of the plants, and that now about 6,500 tons were being produced in the United States, "while we have a consumption of 30,000 tons. That means famine."

On the subject of explosives and the national defence, Mr. Hill presented this statement of the manager of the oldest and largest dyestuff plant in the United States, Dr. Schoellkopf:

MR. SCHOELLKOPF. The processes used in making intermediate products and in making explosives are practically identical. I should say we could begin to turn out explosives in a week.

MR. HILL. How long would it take you, if the war was over and you went back to the manufacture of dyestuffs, to resume the manufacture of those products?

MR. SCHOELLKOPF. If we had the material, we could start manufacturing in a week. There are only certain plants that enter into the manufacture of explosives. In other words, the color plants proper are not used in the manufacture of explosives at all. Only the intermediate plants are used, so that the color plants would not be disturbed at all.

MR. HILL. And with a complete, self-sustaining industry you would practically be in the position of a right arm of the United States government in case of war in furnishing the explosives required in modern warfare. Is that not correct?

MR. SCHOELLKOPF. Absolutely.

MR. HILL. And within a week after the war closed you could return to the industry of manufacturing dyestuffs?

MR. SCHOELLKOPF. Yes.

And on the same theme Dr. Beckers said :

MR. HILL. Dr. Beckers, would you confirm the statement made by Dr. Schoellkopf that your plant in Brooklyn could be turned into a manufactory of explosives within a week or ten days?

DR. BECKERS. I consider we could start to make explosives, provided we would get an order to do so, within a week. If we got the order to-day we could start next week.

MR. HILL. And upon the termination of the demand for explosives, is it safe to assume you could resume manufacturing your dyestuffs within a corresponding time?

DR. BECKERS. Yes, sir; we could, because we use exactly the same raw material and exactly the same apparatus in making explosives as we do in manufacturing dyestuffs.

After Mr. Hill had finished, Representative Olney, Democrat, of Massachusetts, arose to say that, "I regard the Hill bill as a good measure, a salutary measure which can come to the instant relief of the dyestuff situation as it exists in the United States to-day."

But it is the Solid South and not Massachusetts or New England or the North that controls the counsels and shapes the policies of the present National Administration — and the Hill bill, in spite of all appeals and all arguments, has continued to slumber in the pigeonholes of the Committee on Ways and Means of the House of Representatives.

Very different, indeed, is the spirit of the British government and people. At the annual meeting of the Bradford Dyers' Association, Ltd., in Bradford, England, February 28, Mr. Sharp, the chairman of the Board of Directors, declared that, "Most free traders, of whom I am one, are prepared to scrap their pre-war economic opinions, realizing that we shall hereafter live under entirely different conditions. I am confident that the common sense of even the strongest adherent of the Manchester School will compel the admission that action must be taken to secure the establishment of the aniline dye industry in this country." Mr. Sharp added that "The complete, self-contained and independent manufacture

of aniline dyes within the United Kingdom is essential to the commercial and martial protection of the State, the raw materials from which aniline dyes are made being the same as are used in the manufacture of high explosives." Therefore he went on to advocate the continuous granting of a subsidy of \$2,500,000 a year for the encouragement of dye-stuff making in the United Kingdom.

That is the British way, but it is not the way of the more extreme free traders who temporarily dominate fiscal and other affairs in Washington. Anticipating the probable default of our government, an important executive conference of representatives of great American industries most affected was held in the assembly rooms of the Merchants Association of New York, on March 23 and 24. There were present representatives of the National Association of Wool Manufacturers, the Textile Alliance, Inc., the Silk Association of America, the Master Dyers Association, the Upholstery Manufacturers Association, the Philadelphia Worsted Spinners Association, the American Association of Woolen and Worsted Manufacturers, the National Association of Finishers of Cotton Fabrics, the carpet manufacturers, the American Paper and Pulp Association, the National Association of Clothiers and others. As a result of these deliberations, which were presided over by Mr. David Kirschbaum, president of the National Association of Clothiers, an executive committee was appointed consisting of Mr. Henry Wigglesworth, vice-president of the Benzol Products Company, representing heavy chemicals or crude materials; Dr. J. F. Schoellkopf, president of the Schoellkopf-Hartford-Hanna Company; Dr. W. Beckers, president of the W. Beckers Aniline & Chemical Works, representing manufacturers of coal tar dye products; Mr. Arthur H. Weed, secretary of the Chemical Manufacturers Association of the United States; Mr. Franklin W. Hobbs of Boston, president of the Arlington Mills; Mr. Hiram J. Potter of the American Woolen Company, representing manufacturers of cloth who purchase dyes direct; Mr. D. F. Waters, president of the Master Dyers Association of Philadelphia; Mr. Albert

Blum of the United Piece Dye Works, representing handlers of dyes as dyers of fabrics of all kinds; Mr. David Kirschbaum, representing distributors of finished products, and Mr. William R. Corwine, secretary of the National Association of Clothiers, secretary of the committee.

It is the National Administration and its following in Congress which are retarding the vigorous development of a dyestuff and explosive industry in the United States. The bill proposed by Representative Hill of Connecticut ought to have been reported to the House in the month of January and ought now to be the law of the land. The great amounts of capital requisite for the establishment of the industry in America on an adequate scale will not be forthcoming until there is some reasonable assurance of protection after the war has ended against the powerful German monopoly that will be backed then, as it always has been sustained, by all the influence and wealth of the Imperial government. If some definite action is not had in the present session of Congress, it will be the President of the United States and his majority in House and Senate who will be held responsible for the consequences from now on.

WINTHROP L. MARVIN.

ACTIVE AND IDLE MACHINERY.

A SUBSTANTIAL INCREASE OF EMPLOYMENT FOR MARCH 1, 1916, BASED ON THE GENERAL "WAR PROSPERITY."

CONTRARY to a widespread impression in the trade, American wool manufacturing machinery as a whole had not reached a maximum of 100 per cent in operation on March 1, 1916. In fact, a perfect maximum of 100 per cent is never attained in all mills alike, even under conditions of most buoyant prosperity. This should serve to explain the circumstance that on March 1 last 12.1 per cent of the broader looms, 7.3 per cent of the cards, 7.9 per cent of the combs, 9.3 per cent of the woolen spinning spindles and 7.9 per cent of the worsted spinning spindles were reported as idle at a period when many establishments were in full operation and some were working overtime.

But the general condition of the wool manufacture on March 1, 1916, showed a continuance of the active business which had set in in the autumn of 1915. One especially significant fact on March 1 was a decrease in the amount of machinery engaged on foreign military orders. The results of the quarterly inquiry, so far as they relate to the total amount of machinery active and idle and the amount engaged on military orders, are as follows:

MACHINERY.	Total Number Reported.	In Operation.	Idle.	Engaged on Foreign Military Orders.		
				Mar. 1, 1916.	Dec. 1, 1915.	Sept. 1, 1915.
				March 1, 1916.	Dec. 1, 1915.	
Looms, wider than 50 in. reed space,	37,106	32,612	4,494	648	1,846	2,248
Looms, 50 in. reed space, or less . . .	13,066	12,056	1,010	· · · ·	14	40
Looms, carpet	3,698	3,067	631	· · · ·	· · · ·	· · · ·
Woolen cards, sets	3,399	3,151	248	108	529	547
Worsted combs	1,852	1,706	146	· · · ·	· · · ·	2
Woolen spinning spindles	1,143,634	1,036,902	106,732	39,438	167,513	150,185
Worsted spinning spindles	1,526,032	1,404,058	121,974	· · · ·	480	5,700

For the purpose of making a broad comparison there is presented in this same connection the comparative per cent of idle machinery to total reported for each of the eight quarters from June 1, 1914, to March 1, 1916, inclusive. These comparative figures show how far the wool manufacture as a whole has now rallied from the depression which came on with the introduction, passage and enforcement of the present tariff for revenue only. That law is still in effect, but, as is generally known, its normal consequences have been averted by the great war in Europe. Imports of foreign wool manufactures are not so much heavier than under the protective tariffs preceding the present law that foreign competition is of an oppressive character, while so many industries in this country are directly and indirectly quickened by the abnormal European demand for American foodstuffs, metals, munitions, etc., that the unemployed of the earlier months of the Simmons-Underwood period have almost disappeared, and the people are able again to buy normal quantities of woolen clothing.

There has come a particular increase in the activity of the worsted branch—a result due to improvement in domestic conditions and in small part to the opening of a new export trade to Canada, South America and other countries that are no longer able to obtain their wool fabrics from Europe. The proportions of idle machinery to total machinery reported for the eight quarters included are as follows:

MACHINERY.	Per Cent of Idle to Total Reported.							
	Mar. 1, 1916.	Dec. 1, 1915.	Sept. 1, 1915.	June 1, 1915.	Mar. 1, 1915.	Dec. 1, 1914.	Sept. 1, 1914.	June 1, 1914.
Looms, wider than 50 in. reed space . . .	12.1	16.8	26.7	30.4	32.7	27.7	26.	24.6
Looms, 50 in. reed space, or less . . .	7.7	20.2	31.2	25.9	32.	30.	17.3	25.
Looms, carpet . . .	17.1	19.6	24.	24.5	45.8	48.9	38.3	28.3
Woolen cards, sets . . .	7.3	8.8	15.5	17.7	22.7	30.	22.8	19.4
Worsted combs . . .	7.9	14.2	14.	30.	29.4	41.3	21.	15.5
Woolen spinning spindles	9.3	8.6	14.2	17.4	21.5	31.6	22.5	25.8
Worsted spinning spindles	7.9	15.6	17.	39.6	33.	33.	16.9	18.1

PRICES OF YARNS AND CLOTHS.

A COMPARATIVE STATEMENT OF VALUES OF CERTAIN REPRESENTATIVE MANUFACTURES.

THE statement of comparative prices of yarns and cloths, commenced in the Bulletin some time ago, is continued below, so far as cloths are concerned. The difficulty of establishing satisfactory standards for yarns has made it advisable to defer the publication of the comparative yarn prices until the July number.

The prices are reduced so far as practicable to the uniform basis of terms, of net, 30 days. In a few cases it has not been possible to secure quotations in season for this issue, but in the next report it is expected that these deficiencies will be made good. In other cases, especially in the Government goods, no transactions other than those reported occurred during the period covered.

CLOTH PRICES.

No.	Trade Names.	1913.		1914.		1915.	
		Quality, Weight per Linear Yard, Width.	Last 6 Months.	First 6 Months.	Last 6 Months.	First 6 Months.	Last 6 Months.
1.	Clay diagonal. $\frac{1}{2}$ blood, 12 oz., 56 inches.		\$1.10	\$1.06	\$1.10	\$1.17	\$1.2825
2.	Clay diagonal. $\frac{1}{2}$ blood, 14 oz., 56 inches.		1.19	1.13	1.19	1.26	1.4175
3.	Clay diagonal. $\frac{1}{2}$ blood, 16 oz., 56 inches.		1.28	1.24	1.33	1.40	1.575
4.	Serge. $\frac{1}{2}$ blood, 11 oz., 56 inches.		.95	1.08	1.12	1.15	1.20
5.	Serge. $\frac{3}{8}$ blood, 14 oz., 56 inches.		.90	1.00	1.15	1.32 $\frac{1}{2}$	1.50
6.	Flannel, blue. 14 oz.		1.17	1.17	1.21	1.30	1.35
7.	Flannel, white. 36 inches.		.70	.70	.70	.70	.70
8.	Thibet. 12 oz., 56 inches.		.79	.79	.79	.94 $\frac{1}{2}$	.9225
9.	Venetian. 14 oz., 56 inches.		1.13	1.08	1.10	1.24	1.2150
10.	Kersey. 30 oz., 54 inches.		2.25	Discontinued.	2.25	2.25	2.25
11.	Kersey. 26 oz., 54 inches.		2.13	2.25	2.25	2.25	2.25
12.	Covert. 16 oz., 56 inches.		2.48	2.30	2.48	2.59	2.70
13.	Kersey. 28 oz., 54 inches.		2.25	2.38	2.38	2.38	2.3650
14.	Kersey. 24 oz., 54 inches.		2.00	2.13	2.13	2.13	2.15
15.	Broadcloth. XXX wool, 54 inches.		1.75	1.75	1.75	1.75	1.85
16.	Worsted coating. 16 oz., 54/56 inches.		1.50	1.42 $\frac{1}{4}$	1.48 $\frac{1}{4}$	1.57 $\frac{1}{2}$	1.57 $\frac{1}{2}$
17.	Worsted coating. 12 oz., 54/56 inches.		1.40	1.27 $\frac{1}{2}$	1.35	1.40	1.40
18.	Worsted coating. 12 oz., 54/56 inches.		1.20	1.15	1.21 $\frac{1}{4}$	1.26	1.26
19.	Broadcloth. XX wool, 54 inches.		1.68	1.68	1.68	1.68	1.775
20.	Flannel, blue. 14 oz.		1.08	1.08	1.08	1.01	1.03
GOVERNMENT GOODS:							
(Army):							
21.	Olive drab Melton. $\frac{1}{2}$ blood, $8\frac{1}{2}$ oz., 54/56 inches.	July, .87	...	...	.88	.948	.9465
22.	Melton. $\frac{3}{8}$ blood, $13\frac{1}{2}$ oz., 56/58 inches.	...	...	...	.992	1.15	1.1650
23.	Melton. $\frac{3}{8}$ blood, $16\frac{1}{2}$ oz., 56/58 inches.	July, 1.28	...	...	1.20	1.18	1.31
24.	Melton. $\frac{3}{8}$ blood, 30 oz., 56/58 inches.	...	...	...	1.67 $\frac{1}{2}$	...	1.87
(Marine Corps):							
30.	Shirting flannel (khaki). $\frac{1}{2}$ blood, $8\frac{1}{2}$ oz., 55 inches.	May, .912	Ang., .824	...	...	...	...
31.	Flannel, winterfield. $\frac{1}{2}$ blood, 13/14 oz., 54 inches.	Aug., 1.13	...	...	...	...	...
32.	Jacket cloth, dark blue. $\frac{1}{2}$ and $\frac{3}{8}$ blood, 14 oz., 54 inches.	...	...	...	...	Feb., 1.444	...
33.	Coat cloth, dark blue. $\frac{3}{8}$ and full blood, 20 oz.	...	...	...	...	...	...
34.	Kersey, winterfield. $\frac{1}{2}$ blood, 14/15 oz., 54 inches.	...	...	...	...	...	...
35.	Kersey, winterfield. $\frac{1}{2}$ blood, 22 oz., 54 inches.	Aug., 1.49	...	...	...	...	...
40.	Blanket, winterfield. $\frac{3}{8}$ blood, 46/51 ozs. each.	Aug., 2.94 each.	Mar., 2.84 each.	...	...	Feb., 3.32 each.	...

Obituary.

JOHN HOPEWELL. (*With portrait, frontispiece.*)

MR. JOHN HOPEWELL, senior member of the firm of L. C. Chase & Company of Boston and a member of the Executive Committee of the National Association of Wool Manufacturers, died in Washington on March 28, 1916. Accompanied by his wife and a daughter, Mr. Hopewell was returning from a visit to the South, and was stricken on reaching the New Willard in Washington. For a time his friends were hopeful of recovery, but he failed to rally from the shock. The funeral at the home in Newton on Monday, April 3, was attended by an impressive gathering of friends, including many manufacturers and other men of business who held Mr. Hopewell in the highest esteem.

John Hopewell was a native of Massachusetts, born in Greenfield, Franklin County, February 2, 1845, the oldest son of John and Catherine (Mahoney) Hopewell. The senior Hopewell, a native of England, had come in boyhood to the United States, and had learned the cutler's trade in Philadelphia, removing later to Greenfield to follow the industry. He was a thoughtful man, a lover of books, competent, and trustworthy. John, the son, secured a good elementary education in the public schools, but at fourteen left to enter upon the trade of his father in the employ of Lamson & Goodnow, manufacturers of table cutlery in Shelburne Falls, Mass. In 1861 Mr. Hopewell removed to Springfield, Mass., to take employment with the Wason Manufacturing Company. When the Civil War broke out Mr. Hopewell entered the famous United States armory at Springfield, engaged in the manufacture of rifles for the Federal army. Throughout these years of his youth Mr. Hopewell, while giving most conscientious attention to his daily work, took every occasion to read and study and to broaden his early education. He had an honorable ambition to advance to greater responsibilities. To this end he resigned his post in the armory to undertake a course of instruction in a business college in Springfield.

His efforts were abundantly rewarded. First as agent for a publishing house in Albany, N.Y., and later with the house of

Josiah Cummings, saddlery manufacturer of Springfield, he gathered a steadily widening business experience. Then he took a most important step in becoming the traveling representative of the firm of L. C. Chase & Company of Boston, organized in 1847 by Lucius C. and Henry F. Chase for the manufacture of saddlery and horse clothing. This firm in 1867 joined with Thomas Goodall of Sanford, Me., in the establishment of the Sanford Mills for the manufacture of plush carriage robes and furniture plush. The new departure succeeded beyond expectations, and L. C. Chase & Company, as the selling agents for the concern, steadily acquired a great and profitable business in the organization of which Mr. Hopewell demonstrated notable powers of leadership. When in 1885 the Messrs. Chase retired from the firm, Mr. Hopewell became the senior partner and chief manager of the business. He followed Mr. Henry F. Chase as treasurer of the Sanford Mills of Maine, which have long been the largest manufacturing plant in the United States devoted to the production of robes, furniture and car plashes, horse blankets, etc. The firm of L. C. Chase & Company is the selling house not only of the Sanford Mills, but of the Troy Blanket Mills of Troy, N.H., the Reading Rubber Manufacturing Company of Reading, Mass., and the Holyoke Plush Company of Holyoke, Mass. Long associated in the business with Mr. Hopewell were his brother, Mr. Frank Hopewell, and Mr. O. F. Kendall, and in 1905 there were also admitted to membership Messrs. Frank B. Hopewell, John E. Nelson, William H. Mertz, and William P. Underhill. Later, in 1909, Mr. James Clemens was admitted to the firm.

Of recent years Mr. John Hopewell, after his long years of unwearying application, had been able to transfer a part of the responsibilities of the great business to his younger associates, but he had followed the affairs of the firm and the mills with continuing interest. Mr. Hopewell for many years had been active in the National Association of Wool Manufacturers, serving repeatedly on its important tariff and other committees and speaking again and again for the industry before the committees of Congress in Washington. He was a welcome friend of President McKinley, Hon. Thomas B. Reed, and Chairman Nelson Dingley, Jr., and high in the esteem of these and other leaders of the Republican party. They trusted him, and he always absolutely justified their confidence. Mr. Hopewell was a graceful and interesting speaker, with an unusual knowledge of large

public affairs. Indeed, it was often remarked of him that he was himself eminently qualified for the public service. While a resident of Cambridge he represented his district in the General Court of Massachusetts in 1892. He was a power in his Congressional district, and at one time was offered the candidacy for the Republican nomination for Congress. But his business responsibilities would not permit Mr. Hopewell to accept this honor, which was equivalent to an election. He did, however, serve as a delegate to the Republican National Convention in St. Louis in 1896, when William McKinley was nominated for the Presidency.

Mr. Hopewell, with George Draper and others, was among the organizers of the Home Market Club, the great general protectionist association of New England, and he had continuously served as a director or a member of its Executive Committee, and was influential in the shaping of its policies. He was a director of the First National Bank of Boston, one of the largest financial institutions in the country. For several years he was a delegate from Boston to the conventions of the National Board of Trade in Washington. In the social life of Boston, Cambridge, and Newton Mr. Hopewell was long prominent, and his gracious personality won a host of friends. He had been a member and president of the Cambridge Club and the Citizens' Trade Association of Cambridge, and he was also a member of the Algonquin Club of Boston, the Boston Art Club, the Merchants' Club, the Boston Athletic Association, the Colonial Club of Cambridge, and the Boston Chamber of Commerce. He was also a member and the president of the Hunnewell Club of Newton, near his home, and a member of the Brae Burn Golf Club. Mr. Hopewell leaves a wife, Sarah W., daughter of Charles Blake of Springfield, and five children, Charles Frederick, Frank Blake and Henry Chase Hopewell, and Mrs. Clarence M. Casselberry and Mrs. C. C. Colby.

Although throughout his lifetime busily engaged in affairs, Mr. Hopewell had found opportunity to travel widely in this country and abroad, and had made admirable use of his observations. He was a man of the most generous impulses, and was held in closest affection by all who knew him well. When he removed from Cambridge it was to a beautiful residence on one of the hills of Newton, and a few miles away at Natick he owned a country estate, where he spent as much time as possible, delighting in the growing of crops and the breeding of Guernsey cattle.

CHARLES J. H. WOODBURY. (*With portrait.*)

DR. CHARLES JEPHTHA HILL WOODBURY, secretary of the National Association of Cotton Manufacturers, died at his home in Lynn, Mass., on March 20, 1916, in the sixty-fifth year of his age. For some time Dr. Woodbury had been suffering from impaired health, but the end was sudden, and brought deep grief to a host of friends and associates who honored his winning personality and his achievements in literature and business.

Dr. Woodbury was descended in a direct line from the Puritan pioneers of Massachusetts, his first American ancestor having landed on Cape Ann in 1623, several years before the founding of Salem and Boston. Lynn was Dr. Woodbury's native city, and in the high school there he prepared for Harvard University, but instead entered the Massachusetts Institute of Technology, and was graduated with the class of 1873. His unusual ambition and industry were manifest in his early years, for during his summer vacations he was an assistant in the office of the Lynn city engineer, and afterward became the superintendent of a mill in Rockport.

Five years after his graduation Dr. Woodbury became vice-president of the Manufacturers' Mutual Fire Insurance Company, and engaged in important original research into such matters as lubricating oil, mill construction, electric lighting and automatic sprinklers, devising some valuable improvements for the safeguarding of buildings from fire which are still in use.

In 1894 Dr. Woodbury became assistant engineer of the American Bell Telephone Company, holding this post until 1907. From 1894 up to his death he was the secretary of the National Association of Cotton Manufacturers, and was held in the highest regard by the members of the association, for much of whose progressive work he himself was directly responsible. Besides acting as office executive of the association he edited and published the transactions of the association in large volumes, of large permanent value to the cotton industry.

Literature, history, and science all engaged the attention of Dr. Woodbury during his busy career. He was a member of the American Society of Civil Engineers, a Fellow of the American Society for the Advancement of Science, a member of the American Numismatic Society, of the Bunker Hill Monument Association, of the Engineers' Club of New York, of the St. Botolph Club of Boston, and of the Oxford Club of Lynn. He was also

an honorary member of the New York Telephone Society and Telephone Pioneers of America. In Lynn he was vice-president of the Old Essex Chapter of the Sons of the American Revolution, president of the Lynn Historical Society, and secretary of the Whiting Club, a notable literary organization. His work had won recognition from American and European scientific societies. In 1883 the Societe Industrielle de Mulhouse awarded its Alsatian medal to him for his work on mill construction — the only instance in which this honor has been bestowed upon an American. In 1888 Dr. Woodbury was given the John Scott medal and the annual medal of the National Association of Cotton Manufacturers. Tufts College in 1893 granted to Dr. Woodbury the honorary degree of Master of Arts. Union College in 1906 bestowed upon him the honorary degree of Doctor of Science. The same degree was given to him by Dartmouth College in 1908.

Dr. Woodbury leaves a widow and three daughters.

JAMES DOAK, JR.

ONE of the oldest and most esteemed of the worsted yarn spinners of Philadelphia, Mr. James Doak, Jr., died on March 3, 1916, very near the age of four-score. He had been born in 1837 in Londonderry, Ireland, and was brought to this country as a child. On leaving the public schools he began his life work in a mill at Manayunk, but left this calling to enlist for the Civil War, serving first in the Federal army and then in the Federal navy. Returning to Philadelphia he began in 1866 the manufacture of carpets in partnership with William Arrott, under the name of James Doak, Jr., & Company. Subsequently Mr. Doak entered the manufacture of men's wear worsted goods, but in 1893 he gave up his weaving business and devoted his entire energies to the spinning of worsted yarns.

Mr. Doak was an earnest protectionist, and a business man of sterling qualities. He was often consulted in the framing of the wool and woolen schedule, and was one of the founders of the Manufacturers' Club of Philadelphia, a member of the Union League, a past president and member of the Five O'Clock Club, and a director of the National Security Bank of Philadelphia. He was affiliated with the Masonic Order and with the Grand Army. Mr. Doak leaves a widow, two daughters, and three sons, James G., Charles B., and Samuel E. Doak.



Yours very truly,
G. H. Woodbury.

WINFIELD S. SCHUSTER.

HON. WINFIELD S. SCHUSTER, of East Douglas, Mass., died on March 11, 1916, in his sixty-first year. He had been for a long time conspicuous in business and public affairs of his section of Massachusetts. Mr. Schuster was a native of Pittsfield, and began his life work as a bobbin boy in a woolen mill, making steady progress through his own energy and capabilities. At twenty-one he became overseer of a weaving room and, after three years in this capacity in the mill of W. E. Hayward at East Douglas, became superintendent of the mill, of which he was subsequently the proprietor. In 1904 Mr. Schuster organized the Schuster Woolen Company. He was exceptionally successful in his business, and early began to give much attention to public affairs. He was selectman of East Douglas for twelve years, Representative in the Massachusetts Legislature for one year and Senator for two years, and member of the Governor's Council for two years. Mr. Schuster's thorough knowledge of the tariff and its relation to the textile business enabled him to present the subject with great ability in political campaigns.

Mr. Schuster was vice-president of the Forestdale Cotton Manufacturing Company of Rhode Island, president of the Southbridge Print Works, vice-president of the Franklin Felt Company, a director of the Charles River Woolen Company, a director of the Blackstone National Bank, and a trustee of the Uxbridge Savings Bank and of the Public Library of East Douglas. He leaves a daughter.

GEORGE A. SHOEMAKER.

MR. GEORGE A. SHOEMAKER, for many years a worsted yarn spinner at Bristol, Pa., died on March 3, 1916, at Camden, S.C., in his sixty-second year. In early life Mr. Shoemaker became connected with the firm of Grundy Brothers & Campion, worsted yarn spinners of Bristol, and, acquiring a thorough knowledge of the business, became superintendent of the concern. When Mr. Richard Campion withdrew in 1886 Mr. Shoemaker became a member of the new firm, the title of which was changed to William H. Grundy & Company. He retained this connection until he retired in 1900. Mr. Shoemaker was the president of the Bristol Cemetery Company, a director of the Farmers' National Bank of Bucks County, a member of the Masonic Order and a member of the Union League of Philadelphia. He leaves a widow.

Editorial and Industrial Miscellany.

INDUSTRIAL MOBILIZATION.

THE WOOL MANUFACTURE AND ITS PART IN THE NATIONAL DEFENCE.

MOBILIZATION of the vast industrial resources of America as an essential part of any wise program for the national defence has within recent weeks aroused serious attention for the first time in Washington and throughout the country. Thus far the discussion in the press and in Congress has been general rather than definite, as is to be expected ; the theme in its present aspect is a new one to a great majority of our lawmakers and our people. But the subject is not entirely new to business men, particularly to those who recall the earnest, if blundering and ineffective, efforts that were made to coördinate governmental activities and industrial activities in our great Civil War. No satisfactory arrangement was attained in the four years of that struggle, though official authority was necessarily extended to a very great degree over particularly the railroad and telegraph systems. In the general production of munitions and supplies, the government continued to deal independently with various manufacturers down to the spring of 1865 — and again and again there was loud lament of imprudent, unsystematic methods, of enormous profits wrung from the treasury by contractors who took undue advantage of the necessities of the Federal cause.

It is a maxim that when a nation is engaged in a righteous war, the business interests of the country should not regard the emergency as an opportunity for making an inordinate amount of money, but should recognize the patriotic obligation for service as fully as the citizens who participate on land and sea in the actual labors and hazards of military defence. And it should constantly be remembered also that while it is unjustifiable at such a time for an industrial establishment to derive extravagant gains from the government which gives it protection, a reasonable compensation for the use of equipment, capital and services is as just, as right, and as necessary as the payment of the officers and men of the army and navy.

The ideal plan of mobilization is a plan that adequately recognizes beforehand the needs of the government, and prepares the industrial resources of the nation for promptly and fully meeting those needs at prices fair alike to the government and to the industries on which it depends for the proper supplying of its military services. Effective utilization of industrial resources requires mobilization and unified leadership, exactly as the fighting forces themselves do. This preparation beforehand is essential no more to efficiency than to economy, for it is a fundamental principle of industrial preparedness that the government should not become one of the chief factors in causing prices to rise and in complicating the problems of production or delivery by so asserting itself, as is now the case, through certain independent and competing customers for the same commodities or services.

This subject of industrial preparedness, as it so happens, was a theme of consideration at the late annual meeting of the National Association of Wool Manufacturers in Boston, February 9, 1916. An important part of the address of the President, Mr. John P. Wood of Philadelphia, was devoted in an informal way to this particular theme. The President remarked that it was more as a vision than as a specific recommendation that he presented the matter to his fellow-manufacturers, but that, nevertheless, the subject was a real and great one, and that it gathered a character of timeliness and even of urgency from certain recent, and perhaps from impending, events.

Mr. Wood went on to say that there had lately been some suggestion in high official quarters as to the importance of effective preparation for a mobilization of the country's industrial resources for the necessities of war. The first evidence of any activity in that direction that had come to his attention was an inquiry blank sent by the War Department to woolen mills, asking for information as to the productive capacity of the mill addressed, both under normal conditions and under the pressure of an emergency. Mr. Wood ventured the opinion that any procedure along such lines would be quite futile of practical results. If the government desired to accomplish something worth while, it should designate for each industry whose products would be needed in the event of war a small committee composed of some of the ablest men engaged in the given industry, such committee to meet from time to time with officers of the supply department of the "services" assigned separately and specially to each com-

mittee, to study with thoroughness the government needs in the several lines of supplies or materials, and to report what arrangements should be made in advance to assure the government not merely of a prompt and adequate service, but of all possible economy in cost.

By way of illustration, it was suggested that the committee for the wool manufacture should consist of an important departmental (civil) official as chairman, one officer from the supply department of each service (that is, the army, the navy, and the marine corps), three selected men from the wool manufacturing industry, and a secretary or clerk. Such a committee would be competent to assemble the data necessary for a thorough understanding of the subject, from the point of view both of requirements and of capacity to provide.

Further, it would presumably be found possible to formulate a plan whereby, under the guidance of such a committee, arrangements could be made in time of peace:

1. To allot certain designated units of supply and production respectively to the use of the army, the navy, and the marine corps.

2. To enable the government to obtain annual option contracts, renewable from year to year by mutual consent, whereby the government could immediately call to its use so much as was required of certain definitely prescribed *portions* of as many suitable plants, the owners of which would be willing to enter into such an agreement as needed. These contracts would establish a fixed and uniform conversion cost for each product required and a fixed margin of moderate profit on such conversion cost.

3. To make similar annual option contracts, renewable year by year, with mutual consent, with mills and wool dealers, whereby the government would be entitled to take a definitely prescribed portion of such stocks as they might have on hand at a uniform advance in price (say, 10 per cent) over either the ascertained cost thereof or the open market value on the day preceding the call.

4. To provide for the assembling and preparation of raw material in blends of uniform kind, color and quality for each respective kind of goods, and the issue of prepared stock from such blends to the several manufacturers to insure uniformity in the quality and appearance of the goods produced.

By some such plan Mr. Wood was of the opinion that the

government could procure the largest possible output in the shortest possible time, that it would be assured of uniformity in quality and appearance, and that it would save many millions of dollars.

Any less comprehensive method, it was indicated, would immediately upon a great need arising, cause a rapid, speculative advance in the price of raw materials, derange the supply for civil requirements, make the three branches of the war service (the army, navy and marine corps) competitors against each other, and thus further enhance the cost to the government. At the same time, and with the best of intentions, the goods supplied would be as various in color and in quality as the number of the contractors, and opportunities for fraud and adulteration upon the part of unprincipled persons would be many and easy — for the well-known reason that the checks and inspections possible in time of peace utterly fail of protection in a time of urgency.

Every establishment having the necessary equipment could be permitted to enter into these optional contracts. Each establishment could determine for itself at the time the contract was made the maximum portion of its plant which it would be willing to set apart for this national use. The government at the time of need would determine how much of this maximum it would utilize. Prices being uniform, opportunities for complaints and dissatisfaction upon the part of the trade would be at a minimum. One advantage, and a real one, to the government would be that the most efficient plants would naturally be the most eager to enter into contracts, because they would be the ones best able to keep their conversion cost within the arbitrarily established figure.

Finally, Mr. Wood suggested that recent opportunities for observing the inefficient methods which Great Britain, France, Russia, and Italy have been compelled to follow in procuring their supplies and equipment for the present war have clearly shown that those countries have experienced in great degree all the disadvantages mentioned as certain to ensue, unless the experience of those having practical knowledge of the different industries involved was availed of to the fullest extent, and plans were formulated which would give the government an immediate command of the requisite facilities in time of need.

MORE SHEEP AND MORE WOOL.

A NATION-WIDE MOVEMENT LAUNCHED BY THE PHILADELPHIA WOOL AND TEXTILE ASSOCIATION.

"KEEP SHEEP," "More sheep, more wool," are the slogans of an important national movement that has been started by the Philadelphia Wool and Textile Association. Under the direction of Mr. Arthur C. Bigelow, president, and Mr. James Akeroyd, secretary, the Philadelphia association has been sending a letter to the public men, manufacturers and merchants throughout the United States, invoking their active interest in a movement to increase the number of sheep in the country. "We suggest that you take this matter up with your congressman and the representatives in your State," says the association in a circular letter, "to obtain their interest and their support to get action for the enactment of such laws as will be advisable. This association intends to press this object vigorously by a campaign which will be national in its scope."

Accompanying the letter is a concise, statistical statement showing how the production of wool in the United States has steadily shrunk from 328,000,000 pounds in 1909 to 288,000,000 pounds in 1915 — a decline amounting to more than 12 per cent in that period. "Population will continue to increase," says the Philadelphia circular. "If sheep production continues to decrease, what will be our condition for meat and clothing? This concerns every man, woman and child in this country. What are you going to do about it? Help us to get our people to keep sheep."

In connection with the circulars, the Philadelphia association is sending out also an analysis of the wool situation of the world, published by the "London Statist," which emphasizes the fact that the world supply of wool has year after year been stationary or worse, and has wholly failed to keep pace with the world population.

The movement of the Philadelphia manufacturers and merchants has the active support of the National Association of Wool Manufacturers and of the Boston Wool Trade Association. It has been heartily commended by Mr. William M. Wood, the president of the American Woolen Company, who has sent out a letter of his own upon the subject to members of the Cabinet, senators and representatives in Congress, and members of the

Legislature from the New England States. In this letter Mr. Wood has said :

I would most earnestly commend to your attention the campaign of the Philadelphia Wool and Textile Association for "more sheep and more wool." Though the population of the United States is rapidly increasing, the number of sheep and the amount of wool produced here are falling off. In 1909, 328,000,000 pounds of wool were grown in this country; in 1915, only 288,000,000 pounds, a loss of 12 per cent in seven years. In the last fiscal year, out of a total of 591,015,495 pounds of wool available for consumption in the United States, foreign wools represented 300,000,000 pounds, or more than one-half.

Nor can we depend upon wool supplies from abroad — for the wool production of the whole world is decreasing. This world supply in 1915 was estimated at 2,836,000,000 pounds. In 1914 the estimate was 2,872,000,000 pounds; in 1913, 2,880,000,000; in 1912, 2,971,000,000. The great war has wholly cut off certain sources of supply, and made reliance on others most uncertain. Large numbers of sheep have undoubtedly been destroyed in the course of warfare.

So critical is the situation that Great Britain, which controls nearly two-thirds of the world's wool, is contemplating the imposition of an export duty on this indispensable raw material, when bought by any but British purchasers.

National prudence demands an immediate increase in the flocks of the United States. The American people need more sheep, for food and clothing. In spite of the rapidity with which the cheap lands of the West have been taken up, there are still great areas in this country where sheep can be grown with a profit, by the exercise of intelligence and perseverance. Sheep can be grown again in large numbers on the abandoned pastures of the New England and other Eastern States.

Australasia produces nearly three times as much wool as our own country — chiefly because in Australasia wool growing is a modern, systematized business, and because all laws are made to favor it and worthless dogs are not allowed to harry and murder valuable flocks. National and State governments with us have done much to encourage agriculture and stock raising, but sheep and wool have not received their proper due. There is urgent need of a searching investigation of the whole question by national and State authorities. May I not ask you to take up this subject and do your share to the end that there may be more food and more wool for the American people?

All this is an essential part of any patriotic national movement for preparedness, for the position in which this country would find itself in war — dependent on foreign sources for more than half its wool — is appalling to contemplate.

The action of the Philadelphia Wool and Textile Association is taken under authority of resolutions adopted by the association as follows:

Whereas, The number of sheep in the United States is showing a decided and alarming decrease, thus affecting unfavorably the supply of wool and meat needed for our domestic consumption, and

Whereas, It seems highly important that this situation should be thoroughly understood and that action should be taken to increase supplies so vital to the welfare of our people, it is hereby

Resolved, That the executive committee of this association be and is hereby instructed to invite the coöperation of all trade bodies as are especially interested for the purpose of awakening the public generally to their interest in this matter as an economic proposition; that said executive committee shall confer with the authorities and the Legislature of the State of Pennsylvania to obtain the passage of laws which shall restrict and control the ownership of dogs and in addition educate the farmers to the necessity and advantages of sheep as a profitable industry and in all ways possible encourage in this State the raising and maintenance of sheep, and, moreover, that the said executive committee shall take such further steps as may be needed to enlist the coöperation of the authorities and the Legislature of other States for the same purpose, and, moreover, that the Congressmen from this State be asked to coöperate to obtain the assistance of the national government for this purpose, and be it

Resolved, That a copy of these resolutions be mailed to each member of the Legislature of this State of Pennsylvania and to each member of the Congress at Washington.

A REMINISCENCE OF 1912.

HOW FOREIGN "GRATITUDE" HELPED TO MAKE POSSIBLE THE PRESENT TARIFF FOR REVENUE ONLY.

A VIVID sidelight on the making of a modern tariff for revenue only has been thrown by some recent legal proceedings in the city of New York. One William C. Beer, who seems to have been a soldier of fortune in politics, has sued the Italian Fruit Importers Union and two Sicilian fruit growing societies for the sum of \$75,000 alleged to be due for the successful promotion of a campaign in the interest of a lower duty on Italian lemons in the Simmons-Underwood tariff law. In his complaint Mr. Beer states that he and an associate, by the terms of an agreement,

were to have the sum of \$15,000 as a retainer, together with the amount of all expenses incurred in endeavoring to obtain this reduction of the duty on lemons, and "an additional sum of \$60,000 in the event that the duty on Italian lemons, either through act of Congress or any other function or instrumentality of the United States government, was reduced to the rate equal to the rate of duty provided in the so-called Wilson tariff act."

An affidavit mentions a supplementary agreement of October, 1913, that in case the duty on lemons was cut from \$1.20 to 35 cents a box, Mr. Beer and his associate were to have the \$60,000. It is declared further by Mr. Beer that he appeared before the Committee on Ways and Means and the Committee on Finance on behalf of his Italian clients, and "hired speakers and sent out millions of pieces of literature." But the most significant aspect of this whole interesting disclosure is the circumstance to which Mr. Beer further testifies, that "Beginning with 1910 we accomplished some mighty effective work." There are two million voters of Italian birth or descent in this country, Mr. Beer explains, and he proceeded "to stir them up," through letters, papers, missionary speakers and postal cards, to vote on the side that would be most favorable to Italy. "In 1910," Mr. Beer further declares, "the effect of this movement was shown in the votes of close districts. All the Italians voted for the Democrats and the Democrats realized it."

But even now the task was only half complete. The Presidential campaign of 1912 loomed up ahead, and in this campaign the promoter of a revenue duty on lemons proclaims: "The Italians were in full swing for Woodrow Wilson. We organized the Italian Democratic League and had branches all over the country. We did nothing but preach Democracy to them. No \$140,000 ever came to me. As a matter of fact, all that was raised was a little more than \$100,000, and not all of that came to us. What we had, however, we spent like water, and we helped to elect Woodrow Wilson. We had a right to expect some gratitude."

This "gratitude," as everybody knows, took the concrete form of a reduction by President Wilson's Congress in the duty on Italian lemons from \$1.20 to 35 cents a box. Of course, under these circumstances, the Italian importers and the Sicilian lemon growers who had contributed so handsomely to Mr. Wilson's

election and established such a claim upon his "gratitude" very soon got all their money back again.

Defendants in this case, the officers of the Italian Importers Union and of the Sicilian fruit growers' societies, deny that they owe any more money to the enterprising Mr. Beer, but do not dispute any of the larger facts of very definite interest to the American people. Thus one Amarosa, vice-president of the Importers Union, frankly states: "We did raise a fund amounting in all to about \$140,000 to have the tariff on Sicilian lemons reduced, and we did hire Mr. Beer to have it done. In the United States the importers, by paying five cents a box on lemons imported, raised \$105,000 and the Sicilian societies raised \$35,000 more." For this five cents a box these shrewd Italians secured a saving of 85 cents a box in the amount of the customs duty paid into the Federal treasury — and proceeded to put most of this rebate into their own pockets — a glorious example of "tariff reform" or "tariff for revenue only" as it is actually exemplified under Woodrow Wilson in the United States of to-day.

Frequent and vociferous have been the complaints of President Wilson and his followers that American manufacturers and other business men employing labor in this country, maintaining plants and paying taxes here, were wont to contribute generously to the campaign funds of the Republican party, the historic protectionist organization in America. It is only necessary to turn back to the speeches of Mr. Wilson and his champions in the campaign of 1912 to find violent denunciations of such subscriptions — when given by American citizens engaged in great American productive industries. And in the light of such disclosures as this of Mr. Beer and his Italian allies, who having violently fallen out are telling the cold truth about each other, it is quite possible to imagine that these lurid denunciations of American business men for sustaining the party of American protection were uttered in halls hired, on platforms paid for, to the music of blaring bands engaged, by the subscriptions of Italian fruit importers and Sicilian lemon growers, at the rate of five cents a box — amounting, as Signor Amarosa has blandly testified, to the snug sum of \$140,000.

This interesting episode of Mr. Beer and Signor Amarosa recalls the fact that no representative of the Italian Fruit Importers Union or of the Sicilian lemon growing societies, so

far as is known, was summoned to appear before the Democratic Senatorial tribunal that in 1913 investigated the work of an alleged "insidious" lobby in Washington, in connection with the enactment of that beneficent tariff measure, the Simmons-Underwood law. So far as President Wilson and his secretary, Mr. Tumulty, could control it, all the victims of that historic investigation were American citizens — with perhaps one significant exception. Through some inadvertence — or perhaps through the pernicious activity of a wicked Republican — one F. J. Goertner, representing importers and manufacturers of European plate glass, was brought before the Senatorial lobby committee on July 8, 1913. It so happened that Republican Senator Nelson of Minnesota was sitting with the Democratic majority of the tribunal on that day, and Mr. Nelson unexpectedly brought out the admission from the witness that in the fight against the Aldrich-Payne tariff of 1909 he solicited and received considerable amounts of money from European manufacturers as well as from importers living in this country. Thereupon Senator Nelson sharply asked Herr Goertner :

"What proportion of the money you received came from foreigners and what proportion from our own people?"

To which Herr Goertner replied :

"Perhaps two-thirds from people abroad and one-third from people at home; but that is merely a guess. I have no accurate knowledge."

Then Senator Nelson asked :

"Who was instrumental in getting the funds? Did you write to them and ask them to contribute?"

This was Herr Goertner's reply :

"No, sir. We maintain a foreign office in Charleroi, Belgium. It was all handled through that office."

Democratic Senators, the majority of this lobby investigating committee, wore a most bored and languid expression while these interesting circumstances were being brought out. They asked no questions; they sought no further light upon the situation. They did not demand that Herr Goertner produce his books and show the way in which this large sum of money raised abroad was expended — but, when the Secretary and Treasurer of the

National Association of Wool Manufacturers subsequently came before the committee and submitted a careful statement of his presentation of his part of the American case before the committees of Congress, it was instantly demanded by the Democratic Senators that he produce the books and records of the Association — which was readily done, of course, and every item of expenditure asked was properly accounted for. What had been testified to was proved by the books and records, that not one dollar of the funds of the Association had been used for any political purposes whatsoever.

Nor is the reason for this discrimination far to seek — it was the foreign and importing interests that were sustaining the Wilson Administration in its fight for a large measure of free trade, while American men of business were overwhelmingly against it. It has all passed into history now, and would not be recalled but for some such casual disclosure as that of the enterprising Mr. Beer and his late Italian colleagues.

It has all passed into history — but the American people have had an opportunity for reflection, and have done a great deal of serious thinking since 1912. They have come to a very thorough comprehension of the reason why not only Italian but other European business interests desired the success of President Wilson and his party, and generously contributed and sought to organize their race following in this country to that end — and the result of all this sober thinking is reflected in circumstances like those which now obtain in President Wilson's and Mr. Tumulty's own State of New Jersey, where a Congressional delegation that stood eleven Democrats to one Republican in the Congress that gave the Italian lemon importers and producers what they had paid for, has been replaced in the present Congress by a Congressional delegation that stands eight Republicans to four Democrats. There is in New Jersey and elsewhere in this country something which politicians often fail to take into their calculations — a substantial element which, when the issue is drawn, is always dominant — the unhyphenated American vote that puts "America first." A candidate for President of the United States who has this vote behind him need not be very seriously disturbed by any amount of "gratitude" felt for a rival nominee by elements that put some other country first and America afterward.

THE TEXTILE ALLIANCE AND ITS WORK.

PRESIDENT PATTERSON ON A VISIT TO ENGLAND — RATES REDUCED AND A SUBSTANTIAL DIVIDEND IN SIGHT.

PRESIDENT A. M. PATTERSON of the Textile Alliance, Inc., sailed for London in March for the purpose of holding direct conferences with the Messrs. Freshfield, solicitors of the Alliance, and with British officials having to do with the export of wool to the United States. Much good has been anticipated as a result of this visit, in the prompt clearing up of certain points which could not be handled without difficulty and delay through the ordinary channels of correspondence. One difficulty has been in regard to the detention in New Zealand of wools purchased on American account, prior to the enforcement of the latest embargo. A part of these wools had been released, but others were still being held in New Zealand when President Patterson sailed. It was hoped that a frank, direct statement of the case would facilitate the release of all these New Zealand wools by the British and Colonial authorities.

Toward the end of March, the Textile Alliance, Inc., announced that the British War Trade Department had intimated that "In view of the present and prospective requirements of British manufacturers, there does not appear to be any possibility of licenses being granted for the export of merino wool at the present time." This emphasized the wisdom of those American manufacturers and merchants who had made early and adequate purchases. Somewhat earlier, the Alliance had announced that arrangements had been concluded with the British government by which shipments of wool and hair and their products and of sheepskins and goatskins bearing wool or hair could be received from the British West Indies and British Guiana, under license, if consigned to the Textile Alliance.

On February 5th last, the Textile Alliance, Inc., issued in the form of Bulletin No. 12 a revised text of bulletins from Nos. 2-11, inclusive — making the regulations as to the manner of importation of wool, etc., clearer and in a more concise form.

It was announced on behalf of the Alliance that by vote of its Executive Committee the charges on all imports released on and after April 1, 1916, would be one-half of one per cent — the rate of one per cent having proved in experience to be higher than was required, in view of the very great volume of business being

done. Another dividend or rebate to importers of wool was indicated as forthcoming at an early day, this being easily possible through the surplus which had accumulated in the treasury.

Importation of wool through the Textile Alliance has now become a practice so established and familiar that manufacturers and merchants have well accommodated themselves to it, and the business is being done with a minimum of friction and delay. In New York the Alliance weeks ago was forced to move into more capacious offices to conduct the heavily increased volume of business.

Early in the month of April, President Patterson was taking up with the British government the new decree that each new wool license should apply only to one shipment. Mr. Patterson sought to have the decree so modified that each permit should cover as many as three shipments. At latest advices this effort appears to have been unsuccessful.

THE YORKSHIRE WOOL MANUFACTURE IN 1915.

A YEAR OF EXTRAORDINARY ACTIVITY AND INTEREST IN THE UNITED KINGDOM.

THE "Observer's" exhaustive review of the wool manufacturing industry of Yorkshire in 1915 came to hand too late for use in the January Bulletin. Therefore only a few of the most striking historical facts are here noticed, together with a few statistical tables of permanent value for reference. The report is so valuable that it would be a pleasure to reproduce it in full if that were possible. As matters are we must content ourselves with the extracts which follow:

After seventeen months of daily familiarity with war it is curious to look back upon the fears and emotions of its early stages. One recalls the food panic of August, 1914, when apparently sane citizens stocked their cellars with flour stored in zinc dustbins, as if it were something one had read of as happening in another century or another land. Even the moratorium seems infinitely remote, and there is something laughable almost in the recollection of the decision of the Bradford millowners to keep their mills running thirty hours a week for the sake of the work-people. To the great majority of employers and employed the war has thus far brought greater prosperity than they have ever known. In the long run a bitter price may have to be paid, but

the day of reckoning is not yet. The present effect of the lavish outpouring of borrowed money for the purposes of destruction is that all the industries ancillary to the prosecution of war are immensely stimulated, and in the process there is brought about a more equal distribution of the national income, the effect of which is felt in a quickening of industry generally. In this connection it would be worth the while of some inquiring student of economics to trace the consequences of the great extension of the employment of women at relatively high wages. This has certainly been an important factor in promoting the boom which is at present being enjoyed by the Bradford dress trade.

The prosperity enjoyed by the wool trade has not flowed from war orders exclusively. And yet the part played by war work has been large, and to some branches it has been all-important. Makers of fancy worsteds, for example, would have been in a parlous state but for military orders, home and foreign, and so would the spinners of the crossbred and mohair yarns that used to be sent in such large quantities to Germany. Dress-goods manufacturers have practically been enjoying the benefits of protection without an actual tariff. Imports of fabrics have dropped to a mere nothing, and instead of fighting French competition Bradford has been supplying the French market to an extent unequalled since the time of the Franco-Prussian war. Botany spinners have benefited similarly from the cessation of imports of fine hosiery yarns, which were previously very large.

Trade during the past year has been conducted under a legion of difficulties, many of which are still unrelieved and likely to grow worse. The root cause of one large class of difficulties is the shortage of labor due to the recruiting of men for the Army and of women for the munition factories. This labor shortage has reduced factory outputs and seriously retarded the distribution of goods. From it have resulted congestion at the ports, curtailment and frequent interruption of the collection and delivery services performed by the railway companies, and unheard of delays in rail transport.

ESTIMATE OF WOOL CONSUMPTION.

(In 1,000 pounds.)

	Import Wool Retained.	Home- grown Retained.	Deduct for Export.		Net Balance.
			Tops, etc.	Yarn.	
1898	398,798	123,970	56,072	81,670	385,026
1899	370,367	119,416	62,072	87,690	340,011
1900	348,584	115,447	48,105	72,122	339,805
1901	400,812	118,379	62,607	56,956	399,628
1902	352,984	101,238	84,716	60,872	308,634
1903	314,176	97,385	89,729	70,442	251,390
1904	304,503	97,194	91,291	63,004	247,402
1905	340,146	91,932	99,276	45,152	287,659
1906	374,453	103,092	101,213	55,205	321,127
1907	429,386	97,883	103,827	63,522	359,920
1908	411,562	101,485	86,934	57,032	369,081
1909	399,536	79,998	107,667	68,177	303,690
1910	471,832	103,185	110,287	81,780	382,956
1911	477,121	105,343	105,463	78,926	398,075
1912	471,101	84,954	117,148	66,538	372,369
1913	512,648	97,230	125,127	45,706	439,035
1914	370,069	79,709	111,362	40,124	298,292
1915	837,259	94,293	59,840	28,598	843,114

NOTE.—To estimate the quantity of raw wool represented by the exports of tops, etc., the method adopted is to take the total value of the tops, noils, and waste exported during the twelve months, and on the other hand the value of the imported foreign and colonial wool retained for home consumption, and by simple proportion obtain the quantity of wool represented by the value of the tops, etc.; but as this latter value includes cost of labor, etc., in making the tops, 10 per cent is deducted on that account.

As regards yarn, the total quantity of export worsted yarn and woolen yarn for the twelve months is taken, and therefrom is deducted the quantity of import yarn, and the balance doubled is regarded as representing the wool withdrawn by yarn exports.

The table in which we attempt year by year to make an estimate of the country's wool consumption shows this year a balance retained for manufacturing of over 843,000,000 pounds. This is colossal, and it is absolutely impossible that such a quantity of wool can have been used, making the fullest allowance for the increased consumption due to the great activity of the woolen trade and the spinning of thick counts by worsted spinners. Lately America has been suspected of buying up wool for re-sale to Continental users after the war. These figures suggest that we also shall not be without wool to spare when the Continental markets are re-opened.

YARNS.

During the past year the export yarn trade has shrunk very much in volume, and its character and direction have completely changed. The total quantity of worsted yarn exported in the eleven months ended November was 11,138,000 pounds, against 33,027,000 pounds in the corresponding period of last year, a decline of practically two-thirds; and of mohair and alpaca yarn 2,593,000 pounds, against 11,076,300 pounds, a decline of nearly three-fourths. Last year, however, included five war months, and in the accompanying table it has been thought better to compare this year's exports with those of 1913, when the conditions were normal. This comparison shows exports of worsted yarn to have been less than a quarter and of alpaca and mohair yarn little more than a sixth of the normal volume. Of the total of 46,055,000 pounds of worsted yarn exported in 1913 Germany took 27,422,000 pounds, leaving for other countries 18,633,000, of which 11,000,000 pounds is all we have been able to retain. These other countries included Austria and Belgium (1,300,000 pounds in 1913), the takings of which must be deducted from the 18,000,000 pounds in order to arrive at the trade that might have been done this year, but against this deduction we may set the loss of trade with the United States, whither we sent last year (after the lowering of the tariff) nearly 2,000,000 pounds of worsted yarn and only 500,000 pounds this year.

The fact that trade with other countries was capable of expansion is shown by the threefold increase of exports to France. Less than half a dozen worsted spinning mills are working in France at the present time, and a strong French demand has been experienced throughout the year, more particularly for knitting and hosiery yarns. Sweden, Holland, Denmark, Norway, Italy, and Switzerland have wanted yarns from us badly because of the failure of their French, German, and Belgian supplies.

CONSIGNMENT BY PARCEL POST.

A curious consequence of the frequent interruption of shipments because of the closing of ports has been the development of a considerable export trade by parcel post. The maximum weight of a parcel is 11 pounds, or, say 10 pounds of yarn without the packing, and the cost to France or Switzerland is 1s. 7d. Sometimes as much as 500 pounds has been sent in this way, in one consignment to one consignee. This parcel post business does not appear in the Board of Trade returns under yarn exports, because all exports by parcel post are there included under the heading "Miscellaneous and unclassified (including parcel post)," and no details are shown.

EXPORTS OF YARNS 1913 AND 1915.

Woolen, Worsted, and Mohair Yarns.	Eleven Months ended November 30.			
	Quantities.		Value.	
	1913.	1915.	1913.	1915.
	Lb.	Lb.	£	£
Woolen Yarn	4,496,400	3,303,600	431,707	523,830
Worsted Yarn :				
Russia	1,339,500	203,400	168,931	34,275
Sweden	1,130,100	374,500	121,876	55,881
Norway	1,403,400	627,000	144,509	94,392
Denmark	1,776,400	1,654,900	182,405	248,644
Germany	27,421,600	—	2,572,509	—
Netherlands	1,406,800	623,300	136,096	88,485
Belgium	1,287,900	—	116,077	—
France	1,300,000	3,738,100	133,064	621,999
United States	*58,600	505,700	*6,864	61,694
Other Countries ...	8,930,900	3,411,100	1,013,758	519,089
Total	46,055,200	11,138,000	4,596,089	1,724,459
Yarn, Alpaca, and Mohair (includ- ing Cashmere Yarns) :				
Russia	1,157,500	504,900	242,865	93,802
Germany	11,912,400	—	1,417,162	—
Belgium	521,200	—	62,658	—
France	925,700	1,021,200	110,663	154,827
Other Countries...	1,327,200	1,066,700	154,810	119,951
Total	15,844,000	2,592,800	1,988,158	368,580
Yarn, Hair or Wool, unenumerated...	7,790,600	2,012,800	373,938	131,373

* In 1914, after the revision of the tariff, the United States took 1,965,400 pounds of worsted yarn of the value of £253,272.

WORSTED YARN EXPORTS, BY MONTHS AND COUNTRIES, 1915.
(In 1,000 pounds.)

1915.	Russia.	Sweden.	Norway.	Denmark.	Nether- lands.	France.	United States.	Other Countries.	Total.
Jan.	—	21	10	25	23	42	133	271	525
Feb.	—	54	25	74	63	273	113	247	850
March	10	36	37	78	79	235	84	320	880
April	—	77	44	106	64	284	54	358	988
May	7	46	40	79	42	152	18	274	658
June	37	103	48	228	76	427	7	274	1,201
July	58	22	120	134	72	356	47	276	1,083
Aug.	11	13	68	147	38	432	9	288	1,007
Sept.	16	—	62	212	55	481	32	336	1,194
Oct.	35	—	83	176	47	453	4	380	1,178
Nov.	29	2	89	396	.....	604	5	386	1,575

PRICES OF YARNS.

Worsted.

1915.	2/32's Worsted, per Pound.	2/40's Worsted, per Pound.	30's Super Luster, per Gross.	30's Super Demi, per Gross.	36's Super Demi, per Gross.
January	s. d.	s. d.	s. d.	s. d.	s. d.
February	2 2	2 4	9 6	9 6	9 0
March	2 4	2 7	10 6	10 6	9 6
April	2 8	2 11	11 6	11 6	10 6
May	2 9	3 0	12 0	12 0	11 0
June	2 10	3 1	12 0	12 0	11 0
July	2 11	3 3	12 6	12 6	11 6
August	3 1	3 5	13 0	13 0	12 0
September	3 1	3 5	13 6	13 6	12 6
October	3 0	3 4	13 6	13 6	12 6
November	2 11	3 3	13 0	13 0	12 0
December	3 0	3 4	13 6	13 6	12 6
	3 2	3 6	14 6	14 6	13 6

Worsts — (Continued).

1915.	*1/60's Botany, per Gross.		2/48's Botany, per Pound.		2/60's Botany, White, per Pound.		1915.	*1/60's Botany, per Gross.		2/48's Botany, per Pound.		2/60's Botany, White, per Pound.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.	s. d.	s. d.	
Jan.	7 6	3 1	3 4	2 10	July ...	13 6	5 6	6 0	4 6	6 0	5 6	4 6	
Feb.	8 9	3 7	3 10	3 4	August ...	12 0	5 6	6 0	4 6	5 9	5 9	5 5	
March ...	9 3	4 1	4 5	3 8	Sept.	12 3	5 3	5 11	4 5	5 11	5 9	5 5	
April ...	10 6	4 7	5 0	3 8	Oct.	12 0	4 10	6 3	4 5	5 4	4 9	5 5	
May	10 9	4 10	5 3	3 8	Nov.	12 3	5 0	6 3	4 5	5 4	4 9	5 5	
June ...	11 6	5 4	5 10	4 4	Dec.	13 3	5 4	6 3	4 5	6 3	4 9	5 5	

* Super 1/60's, 3d. per gross more.

Mohairs and Alpacas.

1915.	2/32's Mohair Push, per Pound.		2/32's Mohair Low Quality, per Pound.		2/40's Mohair Medium, per Pound.		1/28's Alpaca, per Gross.	1/28's Alpaca Low, per Gross.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.		s. d.	s. d.
January	2 7	2 0	2 12	2 1	3 4	11 9	10 3		
February	2 7	2 7	2 12	2 1	3 3				
March	2 12	2 12	2 12	2 1	3 3				
April	2 7	2 7	2 12	2 1	3 3				
May	2 12	2 12	2 12	2 1	3 3				
June	2 12	2 7	2 12	2 1	3 3				
July	2 12	2 8	2 12	2 4	3 3				
August	2 8	2 8	2 12	2 4	3 3				
September	2 8	2 8	2 12	2 4	3 3				
October	2 9	2 9	2 12	2 4	3 3				
November	2 9 ¹ ₂	2 5	2 12	2 4	3 3				
December	2 10 ¹ ₂	2 5	2 12	2 4	3 3				

Nominal.
Nominal.

Cottons.

1915.	Warp.				Weft.		
	2/40's American.	40's Egyptian Super Carded.	50's Egyptian Combed.	2/80's Soft Gassed Super Combed.	3/30's American.	2/50's Super American.	2/60's Super Egyptian.
January	10 $\frac{1}{2}$	15	18	2/2 $\frac{1}{2}$	10	15 $\frac{1}{2}$	17
February	11 $\frac{1}{2}$	14 $\frac{3}{4}$	17 $\frac{3}{4}$	2/3	10 $\frac{1}{2}$	15 $\frac{1}{4}$	17 $\frac{1}{4}$
March	12 $\frac{1}{4}$	15 $\frac{1}{2}$	18 $\frac{1}{2}$	2/3 $\frac{1}{2}$	11	16 $\frac{1}{2}$	17 $\frac{1}{2}$
April	12 $\frac{1}{2}$	16	19	2/4	11 $\frac{1}{2}$	17	18
May	12 $\frac{3}{4}$	16	19	2/4 $\frac{1}{2}$	12 $\frac{1}{2}$	17 $\frac{1}{2}$	19
June	12 $\frac{1}{2}$	16	19	2/4 $\frac{1}{2}$	12 $\frac{1}{2}$	17 $\frac{1}{2}$	19
July	13	16	19	2/4 $\frac{1}{2}$	12 $\frac{1}{2}$	17 $\frac{1}{2}$	19
August	13 $\frac{1}{2}$	15 $\frac{3}{4}$	18 $\frac{3}{4}$	2/5	13	17 $\frac{1}{2}$	19
September	14 $\frac{1}{2}$	15 $\frac{1}{2}$	18 $\frac{1}{2}$	2/6	13 $\frac{1}{2}$	17 $\frac{1}{2}$	19 $\frac{1}{2}$
October	15 $\frac{1}{2}$	17 $\frac{1}{2}$	20 $\frac{1}{2}$	2/7	14 $\frac{1}{2}$	18 $\frac{1}{2}$	20 $\frac{1}{2}$
November	15 $\frac{1}{2}$	19 $\frac{1}{2}$	22 $\frac{1}{2}$	2/8	15	19 $\frac{1}{2}$	22
December	16 $\frac{1}{2}$	20	23	2/8	15 $\frac{1}{2}$	20	22 $\frac{1}{2}$

The few mule spinners in the country have been quite unequal to the task of turning out the big weights of Botany hosiery yarns demanded by Leicester and Nottingham to replace French, German, and Belgian imports, and consequently these yarns, chiefly 16's to 24's, have been taken cap spun and in oil. Considerable quantities have also been exported to France, both folded and singles on cone or cheese.

These Botany hosiery yarns include single 14-22's for "cashmere" stockings, single 28's for light summer underwear, and twofold 18's and 20's for heavier weights. In thick singles (16-24's) a standard mule-spun hosiery yarn of 70's quality, equivalent to the French and German AA, has gone up during the year as follows: In January it was sold at 3s. 1d., in March at 3s. 7d., in June at 3s. 11d., in October at 4s. 5d., and in December at 4s. 10d.

The trade in Botany yarns for dress goods and gaberdines has been very large, but there has been a great shrinkage in the production of yarns for Italian cloths, and the production for coatings has not been up to its usual proportions, although there has been a steady run on melanges and mixtures, particularly in gray shades.

MILITARY REQUIREMENTS.

In the crossbred trade military requirements have been the dominating feature throughout the year, and during the first half of the year little else was spun than yarn for military purposes

of one kind or another. Although crossbreds started on a high level—a higher level relatively than merinos—prices at the end of the year are higher than at the beginning. In January two-fold 24's khaki mixtures of 40's quality were selling at 2s. 6d. to 2s. 7d., and in April business was done in them at 2s. 10d. During the same period single 6-7's khaki weft advanced from 2s. 4½d. to 2s. 6¾d. Since April business in khaki yarns has been intermittent, and the bulk of the deliveries was completed by June. Yarns for the finer cloths for officers' wear, however, have been in demand right up to the present moment, and spinners have orders on their books that will not be completed till spring. These yarns are made from wool of about 56's quality, and the principal counts have been twofold 14's (a weft yarn), twofold 20's and twofold 28's. Twofold 28's have risen during the year from 3s. 11d. to 4s. 4d., and the others in proportion.

There has been a tremendous trade on twofold 17-20's of 50's quality for serges for the navy. In these cloths warp and weft are alike, and the dyeing is done in the piece. In the spring big weights of single 10-12's, spun from a short carded top, were sold to take the place of woolen yarns for army shirtings. Woolen spinners were so busy at that time that they could not take the orders, so that these worsted substitutes were tried, and apparently they answered very well. More recently there has been a demand for twofold 28's of 40's quality for a white cloth made with a woolen weft for use as a lining.

PIECES.

What was written last year concerning the Bradford piece trade after the outbreak of war might be repeated of the present year almost without alteration. There never was a year when manufacturers spent less money on patterns, there never was a year when there was less variety of fabrics made and there never was a year when the output was so large. Trade has been confined practically to four styles—serges (chiefly navy), gaberdine weaves, covert coatings, and gray mixtures. In serges Botany fabrics have greatly outnumbered crossbreds.

Latterly cheapness in serges has been sought by the use of cotton warps, but the extension of this trade is checked by the difficulty of dyeing cotton warp fabrics in the absence of the direct cotton colors.

In spite of the simplification of the manufacturing process obtained by the restriction of styles, the difficulties of production have been immense. Throughout the year manufacturers have been late with their deliveries, and increasingly so of recent months, but customers have been glad to get the goods even when considerably overdue, and cancellations on this account have been rare. Late delivery of yarn by spinners has been one of the chief causes of delay. Fine counts of Botany yarn have been especially

difficult to obtain. So much business has been offered in thick counts for the hosiery trade that spinners have simply not wanted fine counts, and have quoted prices and deliveries for them that were meant to turn customers away. In the next place there has been abnormal delay at the dyers. Not only have the dyers been chronically short of labor, but the old-fashioned processes on which they have had to fall back in the absence of an adequate supply of synthetic colors take up a great deal of time. An illustration which has been cited before will bear repetition. It concerns the dyeing of a black all-wool serge. Before the war this was done in one bath with acid black in an hour to an hour and a half. Now the pieces have to be treated in two baths — first with bichromate and then with logwood, and the time of dyeing is doubled. The slower methods and the shortage of labor combined have reduced the output of some dyehouses as much as 40 per cent.

In July the Bradford Dyers' Association notified their customers that the acceptance of dyeing orders and the receipt and holding by them of the goods did not necessarily imply ability on their part to dye them. This was entirely dependent on their having the requisite materials when the goods were ready for the dyeing process, and delivery might become impossible even if the goods had been prepared for dyeing.

A year ago it was recorded that for the purpose of economizing colors as much as possible the Bradford Dyers' Association had issued a shade-card containing a range of twenty-five standard shades to which manufacturers agreed to conform. During the past year the concentration has been carried still farther, and by a process of natural selection the number of shades actually demanded has been reduced to eight or ten. Blue is the color which has caused the most trouble. Saxe blues, for example, have been much wanted, but many buyers have now given them up as hopeless. All compound colors into which blue enters as a constituent have proved unreliable. The blue fades and exposes the fast red or yellow base, and what was perhaps an expensive garment is ruined. The end of the year finds the dyeware situation worse than it was at the beginning, and as long as the need for high explosives continues there is little hope of improvement.

CHANGED METHODS OF BRITISH SELLING.

IMPORTANT NEW STEP TAKEN BY YORKSHIRE AND SCOTTISH MANUFACTURERS.

ONE incidental result of the great war — a result that might never have been brought about without it — is the determination of a large section of British wool manufacturers, announced at

the middle of March, to make some radical changes in their selling terms. These changes had long been dreamed of and advocated, but never hitherto could be put into effect against the force of British conservatism. What the fine cloth manufacturers of Yorkshire and the south of Scotland have now agreed on is (1) to abolish forward dating; (2) to refuse concessions to buyers under the heads of bonus, commission or rebate; (3) to sell only by net measure, 36 inches per yard instead of 37 inches, and without the customary over-measure of one yard per piece; (4) to convert the six-monthly season settlement into a three-monthly settlement. For a long time with these British manufacturers it has been the custom to have every piece of cloth measure 37 inches to the yard, while an additional yard was allowed for every 40 yards—so that for every 50 yards purchased, a piece measuring $52\frac{1}{2}$ yards was delivered. It is believed that experience in trading in khaki with the government, where the measure was net and the price net, has influenced the policy of Yorkshire and South Scotland, and made it easier to bring about the change long contemplated. The manufacturers who have taken this action are makers of fine and fancy woolen and worsted goods, and their prestige is such that any example which they may be able to maintain is likely to be followed by many others in the industry.

As with all new things, opposition immediately developed to the agreement of the manufacturers, which was to become effective July 1. Shippers, merchants, and wholesale clothiers have all sought certain modifications in the arrangement, but at this writing they have not gained their point, and they may not be able to gain it, for it is understood that the agreement of the manufacturers interested was unanimous.

In the New York market importers of British woolen fabrics, when they heard of the new arrangement, began to anticipate a reduction in price of about 5 per cent, on the theory that British manufacturers had taken carefully into their calculations, in making previous prices, the allowance of 37 inches to the yard and an extra yard in every piece. It is acknowledged on all hands that there never has been a better time for the initiation of a new policy in selling, when machinery as a whole is actively employed and few manufacturers are compelled to beg for orders.

SIR SWIRE SMITH, M.P.

It is reported from Bradford, England, that Sir Swire Smith, well known on this side of the Atlantic as a successful worsted spinner, but more widely known, if possible, for his interest in textile education and educational institutions, has recently sold his business, conducted heretofore at the Springfield Mill in Keighley, under the name of Swire Smith & Brother, and will devote the remainder of his life to work in Parliament, to which body he was recently elected. In this larger field of usefulness he will doubtless continue his interest in technical education in England, to the necessity of which he was one of the first to call effectual attention. The pages of the Bulletin have frequently been enriched by extracts from his addresses on educational matters, a custom which will be continued so far as opportunity offers and circumstances permit.

A NEW TEXTILE JOURNAL.

MR. SAMUEL S. DALE, for many years editor of the "Textile World Record," has recently established a new textile publication. His paper, "Textiles," of which he will have editorial charge, will devote its attention to the technical side of the textile industry, cotton, wool and silk, and knit goods.

"Textiles" has been combined with the former New York publication "Knit Goods," and will be published monthly by the Textiles Company, of which Mr. Edwin B. Pillsbury is the business manager. Mr. Dale has had large experience, is well informed on textiles and well equipped to find a solution of the many intricate problems continually arising in the various branches of the industry. The price of "Textiles" is \$1 per year. It will be issued monthly from its office, 79 Milk Street, Boston.

Book Review.

A HANDBOOK OF WEAVES.

By G. H. OELSNER, Director at the Weaving School at Werdau, Germany.
Translated and Revised by SAMUEL S. DALE.

THIS work originally appeared in this country in the columns of the "Textile World Record," of which at that time Mr. Dale was the editor, and was published in monthly instalments, covering a period of four years.

Its value has caused its reproduction in book form, and to it Mr. Dale has added a supplement showing how the weave and fabric construction of cloths may be determined, thus making it possible for manufacturers to obtain the details of the lay-out of cloths of various weaves, ascertain the best arrangement of warp and weft, and select the most suitable construction to produce a desired effect. The book contains full explanation of the constructions of weaves and the peculiarities of the various interlacings, which are illustrated by 1,875 plates.

It is claimed to be a "complete and accurate translation of a book which, in the original German, has gone through many editions and is regarded as the best presentation of the subject in any language."

Published by the Macmillan Company, New York, price, \$4.50. It can be obtained at this office.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION,
ETC., REQUIRED BY THE ACT OF CONGRESS
OF AUGUST 24, 1912.

Of Bulletin of the National Association of Wool Manufacturers,
published quarterly, at 683 Atlantic Avenue, Boston, Mass.,
for April 1, 1916.

STATE OF MASSACHUSETTS }
COUNTY OF SUFFOLK } *ss.*

Before me, a Notary Public, in and for the State and county aforesaid,
personally appeared Winthrop L. Marvin, who, having been duly sworn
according to law, deposes and says that he is the Editor of the Bulletin of
the National Association of Wool Manufacturers, and that the following is,
to the best of his knowledge and belief, a true statement of the ownership,
management (and if a daily paper, the circulation), etc., of the aforesaid
publication for the date shown in the above caption, required by the Act of
August 24, 1912, embodied in section 443, Postal Laws and Regulations,
printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing
editor, and business managers are:

Publisher, National Association of Wool Manufacturers, 683 Atlantic
Avenue, Boston, Mass.

Editor, WINTHROP L. MARVIN, 683 Atlantic Avenue, Boston, Mass.

Managing Editor, none.

Business Managers, none.

2. That the owners are (Give names and addresses of individual
owners, or, if a corporation, give its name and the names and addresses of
stockholders owning or holding 1 per cent or more of the total amount of
stock):

National Association of Wool Manufacturers, 683 Atlantic Avenue,
Boston, Mass., the principal officers being: *President*, John P.
Wood, Philadelphia, Pa.; *Vice-Presidents*, William M. Wood,
Boston, Mass.; Frederic S. Clark, North Billerica, Mass.; George
H. Hodgson, Cleveland, O.; *Secretary and Treasurer*, Winthrop
L. Marvin, Boston, Mass.

3. That the known bondholders, mortgagees, and other security holders
owning or holding 1 per cent or more of total amount of bonds, mortgages,
or other securities are (If there are none, so state):

There are no bonds, mortgages or securities of any kind.

WINTHROP L. MARVIN,

Editor.

Sworn to and subscribed before me this 1st day of April, 1916.

WILLARD A. CURRIER,

Notary Public.

(My commission expires May 20, 1921.)

DECISIONS OF THE TREASURY DEPARTMENT ON THE WOOLEN TARIFF.

(T.D. 35774.)

Drawback on worsted cloth.

Drawback on worsted cloth manufactured by the Uxbridge Worsted Co., of Lowell and Uxbridge, Mass., in part with the use of imported worsted yarns and dyes.

TREASURY DEPARTMENT, October 11, 1915.

SIR: Drawback is hereby allowed under paragraph O of section 4 of the tariff act of October 3, 1913, and the drawback regulations (T.D. 31695 of June 16, 1911), on worsted cloth manufactured by the Uxbridge Worsted Co., of Lowell and Uxbridge, Mass., in part with the use of imported worsted yarns and dyes.

A manufacturing record shall be kept, which will show, in the case of each lot of worsted cloth manufactured for export with benefit of drawback, the lot number and date of manufacture thereof, the quantity, character, identity, and value of the imported worsted yarn used, the length, width, and weight of the gray worsted cloth produced, the quantity of imported worsted yarn appearing therein, the quantities of recoverable and non-recoverable waste incurred, and the value of the recoverable waste. A dyeing record shall also be kept, which shall show, in the case of each lot of gray cloth dyed, the length, width, and weight of the cloth both before and after dyeing, and the quantity and identity of imported dye appearing therein. A sworn abstract from such manufacturing record shall be filed with the drawback entry.

The allowance shall not exceed the quantity of imported dye appearing in the exported worsted cloth and the quantity of imported yarn used in the manufacture thereof, as shown by the sworn abstract from the manufacturing record prescribed above, the allowance for waste in the case of yarns to be reduced according to the quantity of imported yarn which the value of the waste will replace.

The sworn statement of the manufacturers, dated September 15, 1915, is transmitted herewith for filing in your office.

Drawback may be allowed on the worsted cloth covered by these regulations exported on or after July 10, 1915.

Respectfully,

ANDREW J. PETERS,

Assistant Secretary.

(103868.)

COLLECTOR OF CUSTOMS, Boston, Mass.

(T.D. 36175 — G.A. 7860.)¹*Waterproof raincoats — Component material of chief value.*

1. Waterproof raincoats found upon analyses to be made of wool, cotton, and india rubber, and of wool, cotton, silk and india rubber, *held*, subject to duty as wearing apparel according to the component material of chief value.
2. In ascertaining the component material of chief value the condition of the several components must be taken and valued in the condition in which they were severally ready to be combined and made into the completed article.
3. Whenever a mixed cloth appears as one of the components of a completed article its value as one of the units shall be considered as though it were composed wholly of its component material of chief value. — *Seeberger v. Hardy* (150 U.S. 420) and *United States v. Meadows* (2 Ct. Cust. Apps., 143; T.D. 31665) cited and followed.

BROWN, *General Appraiser*, dissenting, holds: (1) That the value of the all-cotton cloth should be added to the value of the cotton threads in the mixed wool and cotton cloth with which it is joined by the rubber, and compared with the value of the wool threads in the mixed cloth, and with the rubber; (2) that in the other class of two mixed cloths joined by the rubber composition, the total value of the wool, cotton, and silk threads wherever appearing should be taken and compared with each other and with the rubber.

United States General Appraisers, New York, February 17, 1916.

In the matter of protest 760778 of True Fit Waterproof Co. against the assessment of duty by the collector of customs at the port of New York.

[Modified.]

Walden & Webster (*Henry J. Webster and Edward F. Jordan* of counsel) for the importers.

Bert Hanson, Assistant Attorney General (*Chas. D. Lawrence, Leland N. Wood, and Luke Lamb*, special attorneys), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers; BROWN, G.A., dissenting).

McCLELLAND, *General Appraiser*: The merchandise in question consists of waterproof raincoats returned as being wool, cotton, and india rubber, and wool, cotton, silk, and india rubber, wool being the component material in chief value of each.

The collector assessed duty on these garments at the rate of 35 per cent ad valorem under paragraph 291 of the tariff act of 1913 as wearing apparel composed in chief value of wool, and the protestants claim that duty should have been assessed at the rate of 30 per cent ad valorem under either paragraph 256, 261, or 266 of the same act.

Three sets of analyses were made by the Government analyst of samples of each of the items involved, and these analyses we find with the official papers forming part of the record that comes to us on which to base a decision.

The claim for duty at the rate of 30 per cent ad valorem under paragraph 256, *supra*, is sustained as to the items found to be in chief value of cotton.

¹The extreme length of this decision precludes its reproduction in full.

The collector's assessment of duty is affirmed as to the items found to be in chief value of wool.

As to item 8311, being in chief value of silk, the protest is overruled without affirming the action of the collector.

(T.D. 36193 — G.A. 7865.)

Flax card cloth — Double fabric.

A double cloth or fabric composed in chief value of flax, which appears to be plain woven on the surface but in which the warp and weft threads do not interlace alternately with each other throughout the fabric, is not a plain woven fabric within the meaning of paragraph 283, tariff act of 1913, but properly falls for duty under the provision for manufactures of flax in paragraph 284.

United States General Appraisers, New York, February 25, 1916.

In the matter of protests 773769, etc., of Stone & Downer against the assessment of duty by the collector of customs at the port of Boston.

[Affirmed.]

Searle & Waterhouse (*W. E. Waterhouse* of counsel) for the importers.

Bert Hanson, Assistant Attorney General (*Leland N. Wood, Martin T. Baldwin, and Frank P. Wilson*, special attorneys), for the United States.

Before Board 2 (FISCHER, HOWELL, and COOPER, General Appraisers; HOWELL, G.A., not participating).

COOPER, General Appraiser: Certain card cloth classified as "manufactures of flax" and returned for duty at the rate of 35 per cent ad valorem under paragraph 284, act of 1913, is claimed to be a plain woven fabric composed in chief value of flax and properly dutiable at the rate of 30 per cent ad valorem under paragraph 283.

The only question before us for decision is whether or not this fabric is plain woven. The merchandise is identical with that passed upon in the case of Howard Bros. Manufacturing Co., Abstract 37354, and the record in that case was incorporated and made a part of the record in this case. In that case two well-qualified witnesses testified that the fabric was plain woven and two equally expert witnesses testified that it was not plain woven, and the board held that the importer had not overcome by a preponderance of evidence the presumption of correctness of the collector's classification. In the present case the importer produced one of the witnesses who testified in the former case and two other witnesses, all of whom are experts engaged in designing fabrics and textile weaving machinery.

It appears from the record and we find as facts that the cloth in question is used in making card clothing; that the warp threads are made of flax and the weft of wool, and that flax is the component of chief value; that the fabric is woven double for the purpose of increas-

ing the weight and strength; that there are two sets of weft threads and five sets of warp threads; that the weft threads on each face of the fabric pass alternately over one warp and under one warp thread; and that the warp threads pass over one weft thread in the face or upper layer of the double fabric, then pass down to the other side or back of the fabric, going under one weft thread in the lower layer of the fabric before returning to the upper surface, thus binding the two fabrics together, but, inasmuch as the fabric is double and there are two sets of weft threads, before the warp threads return to the upper surface they pass under four weft threads. Thus the warp threads throughout the whole fabric go over one and under four weft threads, but the cloth is so made that each face or surface appears to be plain woven, both the warp and the weft threads appearing to go over one and under one thread, there being no skip visible on either surface. The importers' witnesses who testified in the trial of the particular protests now before us for decision said that the fabric is designated by weavers in the textile industry as a "plain double weave."

But is a plain double weave actually a plain weave? It has been held that certain jute canvas having a double warp, but which was not twilled or figured in any manner in the process of weaving, was a plain woven fabric (*In re Lamb*, G.A. 4097, T.D. 19098, affirmed by the court in the case of *United States v. Lamb*, 99 Fed. 262), and that the term "plain woven" means plain as distinguished from twilled or figured effects produced in the process of weaving. *In re White*, G.A. 5035 (T.D. 23386); *In re Downing & Co.*, G.A. 6063 (T.D. 26445); *In re White*, G.A. 7222 (T.D. 31588), affirmed by the court in the case of *White v. United States* (2 Ct. Cust. Appl., 327; T.D. 32054). But no case has been called to our attention in which the question has been raised as to whether or not double fabrics, which are plain on the surface but are made by an elaborate system of weaving, are plain woven.

In ascertaining the meaning of words, terms and phrases, courts properly find the ordinary and popular definitions understood by the people, and in procuring such information they may consult the definitions given by recognized lexicographers and technical books of standard authority. The fabric before us does not conform to the dictionary definitions of the "plain weave," which are as follows:

Webster's New International Dictionary:

Plain weave. — The simplest form of weave in which the threads interlace alternately with each other.

Standard Dictionary:

Plain weave. — The first of the foundation system of weaves, the plainest possible method of interlacing threads, both warp and weft or filling threads interlacing alternately with each other. Called also cotton weave.

New International Encyclopedia :

Weaves.—While there are innumerable arrangements called weaves for the interlacing of the warp and filling threads in weaving various textile fabrics, these arrangements are all based on three primary weaves, . . . technically called the plain, twill, and satin weaves. . . . The plain weave is the simplest form of weaving, requiring but two different movements of the warp threads.

Plain weaving is described as follows in “The History and Principles of Weaving” by Alfred Barlow (p. 67) :

If a piece of plain cloth or calico be examined it will be found to consist of a number of threads placed parallel to each other, which are interlaced alternately by a single thread passing from side to side of the cloth. The separate thread is the weft thread and has been inserted between the other threads called the warp by means of a shuttle. The alternate intersection of the warp and weft threads, therefore, constitutes plain weaving.

In the standard work entitled “Technology of Textile Design,” by E. A. Posselt, it is stated on page 13 that—

The different weaves are generally divided into three distinct main divisions (foundation weaves): The plain, the twills, the satins; forming the foundation of all other subdivisions of weaves classified as “derivative weaves.” New weaves are also formed by the combination of weaves from the various subdivisions, etc., thus forming a field impossible to cover in detail as respects each particular weave or special fabric.

Double cloth and double weaving are classified and treated separately from the foundation weaves by Posselt, and, as described, consist of a more elaborate system of weaving than that explained for making any of the foundation weaves. The testimony shows that the merchandise in question is a double fabric, and, as such, in appearance and mode of manufacture, it is far removed from the ordinary plain woven fabrics described in the dictionaries and other authorities. An examination of the samples in evidence shows that the cloth is not figured and the witnesses who testified at the last trials said that it is not twilled; but we are still unconvinced that it is plain woven, and we conclude that a plain double weave is not actually a plain weave.

We hold that the merchandise in question is not a plain woven fabric, and the protests are accordingly overruled.

(T.D. 36216 — G.A. 7868.)

Axminster chenille carpeting.

Axminster chenille carpeting, 12 feet by 75 feet, imported in rolls, which rolls are cut after importation to meet the particular size demanded by the purchaser, are properly dutiable under paragraph 293, tariff act of 1913, as Axminster chenille carpeting and not under paragraph 300 as carpets woven whole for rooms — G.A. 421 (T.D. 10926) cited.

United States General Appraisers, New York, February 28, 1916.

In the matter of protest 781289 of Thos. Meadows & Co. against the assessment of duty by the collector of customs at the port of New York.

[Reversed.]

Masters & Levett (Benjamin A. Levett of counsel) for the importers.

Bert Hanson, Assistant Attorney General (Charles D. Lawrence, special attorney), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers).

BROWN, *General Appraiser* : The appraiser's report reads as follows:

The merchandise marked "A" consists of Axminster rugs woven in a single piece, the ends of which were turned back and permanently sewed and bound, making whole carpets. It was returned for duty as carpets, woven whole for rooms, at 50 per cent ad valorem under paragraph 300, act of 1913.

Various claims are made in the protest, but reliance is placed upon the claim at 35 per cent under paragraph 293, reading:

293. Aubusson, Axminster, moquette, and chenille carpets, figured or plain, and all carpets or carpeting of like character or description, 35 per centum ad valorem.

The evidence shows that the merchandise here in question consists of a roll 12 feet by 75 feet of chenille Axminster carpeting, and that it is cut into lengths to suit the wishes of a particular purchaser. The evidence also shows conclusively that it was not woven whole for a particular room, that it is bound down at each end to prevent unraveling, and that it is manufactured by an entirely different process from the so-called true Axminster.

This article is not a rug. It is manufactured as a piece of carpeting in one piece on a loom, and the binding down of the two ends to prevent unraveling would not make it into a rug.

In the case of Johnson & Faulkner, G.A. 421 (T.D. 10926), it was held that the expression "woven whole for rooms" was intended to cover a carpet manufactured on special order to cover a particular room. This is not the case of the carpet here at issue.

For these reasons the merchandise in question is not within the purview of paragraph 300. It is therefore Axminster chenille carpeting within the meaning of paragraph 293, and the protest is sustained.

(T.D. 36229 — G.A. 7874.)

Wilton and tapestry Brussels rugs.¹

Wilton and tapestry Brussels rugs woven in long lengths of from 40 to 60 yards, the place of separation of each rug being indicated by a break in the weave of the pile, are not carpet or carpeting within the meaning of the language of paragraph 303 of the tariff act of 1913. Such rugs, after being so woven and before importation being separated by cutting at the lines indicated by the break in the weave of the pile and hemmed or fringed, are completed rugs, and, as such, are subject to duty at the rate of 50 per cent ad valorem under paragraph 300 of the tariff act of 1913. — G.A. 7606 (T.D. 34816), G.A. 6116 (T.D. 26613), G.A. 7217 (T.D. 31565), G.A. 7460 (T.D. 33406), Abstract 33475, and *United States v. Buss & Co.* (5 Ct. Cust. Appl., 110; T.D. 34138) cited.

BROWN, *General Appraiser*, dissenting, holds: Tapestry Brussels and Wilton rugs made from strips of carpeting which are marked mechanically at intervals as they go through the loom, by a process which leaves off the pile at each interval and leaves it ready to be cut into rugs, are properly classified under paragraph 303, act of 1913, covering "rugs for floors . . . and other portions of carpets or carpeting," which throws them under the provisions for similar carpeting, namely, paragraphs 294 and 297, and not under paragraph 300 as rugs similar to Oriental, Berlin, Aubusson, and Axminster. — *Beuttell v. Magone* (157 U.S. 154) and G.A. 7606 (T.D. 34816) cited.

United States General Appraisers, New York, March 8, 1916.

In the matter of protest 781206 of Henry Beuttell & Sons against the assessment of duty by the collector of customs at the port of New York.

[Affirmed.]

Thaddeus S. Sharretts (Thaddeus S. Sharretts, Edward P. Sharretts, and Samuel T. Siegel of counsel) for the importers.

Bert Hanson, Assistant Attorney General (*Charles D. Lawrence and Harry M. Farrell*, special attorneys), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers; BROWN, G.A., dissenting).

McCLELLAND, *General Appraiser*: The merchandise consists of Wilton and tapestry Brussels rugs, the appraiser distinguishing the former by the letter "A" and the latter by the letter "B" on the invoice. The collector assessed duty at the rate of 50 per cent ad valorem on both the Wilton and tapestry Brussels under paragraph 300 of the tariff act of 1913, which reads:

300. Carpets of every description, woven whole for rooms, and Oriental, Berlin, Aubusson, Axminster, and similar rugs, 50 per centum ad valorem.

Claim is made in the protest against the collector's action that they "are probably dutiable either directly or by virtue of paragraph 303 at the rate or rates of duty applicable to carpets or carpeting in paragraphs 294, 296, or 297 of the tariff act of October 3, 1913, namely, at 30 per cent ad valorem under paragraph 294, or at 20 per cent ad valorem under paragraph 297."

There is no dispute that the merchandise in the condition imported is

¹ Much of the text of this decision necessarily omitted because of its length.

completed rugs. This fact is at once apparent on an examination of the samples, and all through the trial they are referred to as rugs.

Judge Martin, in writing for the Court of Customs Appeals in *United States v. Buss & Co.* (5 Ct. Cust. Appl., 110; T.D. 34138), said, among other things:

The rule expressed by the decisions just cited recognizes the fact that most small articles are not produced as individual or separate products of the loom, but for economy of manufacture are first woven "in the piece." The rule of decision is therefore established that where such articles are imported in the piece and nothing remains to be done except to cut them apart they shall be treated for dutiable purposes as if already cut apart and assessed according to their individual character or identity. This follows, however, only in case the character or identity of the individual articles is fixed with certainty and in case the woven piece in its entirety is not commercially capable of any other use.

See also G.A. 7217 (T.D. 31565) and G.A. 7460 (T.D. 33406).

The merchandise in question is clearly within this rule, and the protest is therefore overruled.

ABSTRACTS OF OTHER BOARD CASES.

No. 38552. — Protests 758169, etc., of Merck & Co. (New York).

LANOLIN. — Merchandise invoiced as "Adeps Lanæ Cum Aqua" and "Adeps Lanæ Anhydrous," classified as lanolin at 1 cent per pound under paragraph 44, tariff act of 1913, is claimed dutiable under the provision in the same paragraph for wool grease "refined or improved in value or condition" at one-half cent per pound.

Opinion by BROWN, G.A. . . . At the hearing counsel for the protestants introduced in evidence certified copies of letters patent relating to the manufacture of so-called lanolin, and also certificate of registration of trade-mark for the word "Lanoline." From this the protestants' contention seems to be that the provision for lanolin in paragraph 44 only includes the patented and trade-marked article "Lanoline," and that an article of the same character known by another name, like "Adeps Lanæ Anhydrous," is not dutiable as lanolin.

The appraiser, in his report, states that the merchandise consists of refined wool grease identical in character with the merchandise the subject of *Koechl v. United States* (3 Ct. Cust. Appl., 316; T.D. 32619). The merchandise was there held dutiable as wool grease, refined, under paragraph 290, act of 1909. There was no provision for lanolin in that act.

The issue here is controlled by the principle in *Cassett v. United States* (2 Ct. Cust. Appl., 465; T.D. 32225) where isarol, an ammo-

nium sulphoichthylate, was held free of duty as ichthyl, the court saying (p. 467):

It will be noted that paragraph 626 is a paragraph confined to oils. The word "oils" is followed by a colon and by the specific names of the various oils referred to, including ichthyl. It should be read as though it had been printed "oils, namely, ichthyl," etc. Whether it be held therefore that the substance which had been evolved as a commercial product and given the name of ichthyl so far retains the character of oil as to bring it within this paragraph or not, it cannot be brought therein by segregating the word ichthyl from the body of the paragraph and treating that single word as designating the proprietary article called ichthyl for free entry to the exclusion of other like substances or the crude oil itself. The paragraph equally covers all ichthyl oils, and unless the product hereinafter referred to as Merck's ichthyl is an oil within the meaning of this paragraph, it is no more admissible under the free list than is the importation under consideration in the present case.

The name by which the particular preparation is known cannot determine the question of fact as to whether it is an ichthyl oil or such a preparation of ichthyl as yet retains sufficient of the characteristics of ichthyl oil to be within the intent and meaning of Congress in enacting this paragraph.

The same principle applies here. Paragraph 44 relates to "oils, rendered," and enumerates, among other oils, "lanolin." The appraiser found it to be lanolin and it was so classified by the collector. There is nothing in this record to overcome the effect of this finding and decision. That there are oils commonly known as lanolin is well known, and there is no indication that the provision for "lanolin" was intended by Congress to apply only to the patented and trade-marked article. The protests are therefore overruled.

No. 38578.—Protests 763917, etc., of R. F. Downing & Co. (New York).

MOHAIR DRESS GOODS.—Dress goods classified as cloth in chief value of the hair of the Angora goat at 40 per cent ad valorem under paragraph 308, tariff act of 1913, is claimed dutiable at 35 per cent as wool cloth or wool dress goods under paragraph 288 or 290.

Opinion by BROWN, G.A. Protest unsupported; overruled.

No. 38580.—Protest 783290 of Nathan Weiner & Co. (New York).

MOHAIR PILE FABRICS.—Merchandise classified as a pile fabric composed in chief value of Angora goat hair, at 45 per cent ad valorem under paragraph 309, tariff act of 1913, is claimed dutiable as cloth composed wholly or in chief value of wool, at 35 per cent under paragraph 288.

Opinion by BROWN, G.A. Protest unsupported; overruled.

No. 38585. — Protest 772853 of Thos. Young (New York).

WOOL CLOTH. — Cloth classified as composed in chief value of silk at 45 per cent ad valorem under paragraph 318, tariff act of 1913, is claimed to be wool chief value, dutiable at 35 per cent under paragraph 288.

Opinion by HOWELL, G.A. The report of the appraiser admitting that the cloth is composed in chief value of wool, it was held dutiable at 35 per cent under paragraph 288, as claimed.

No. 38615. — Protest 773626-54816 of Carson, Pirie, Scott & Co. (Chicago).

WOOL WEARING APPAREL — TRIMMINGS. — Goods returned by the appraiser as wool wearing apparel in part of artificial silk trimmings and ornaments, classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, is claimed dutiable as wool wearing apparel at 35 per cent under paragraph 291.

Opinion by HOWELL, G.A. The goods were found to consist of wool jackets made in part of trimmings or ornaments. On the authority of *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —; T.D. 35388) it was held dutiable as wool wearing apparel at 35 per cent under paragraph 291, as claimed.

No. 38636. — Protest 779628 of J. J. Gavin & Co. (New York).

WEARING APPAREL IN PART OF BRAID. — Women's jackets classified as wearing apparel in part of braid at 60 per cent under paragraph 358, tariff act of 1913, are claimed dutiable as wool wearing apparel at 35 per cent under paragraph 291.

Opinion by HOWELL, G.A. On the authority of *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —; T.D. 35388) the jackets in question were held dutiable as wool wearing apparel at 35 per cent under paragraph 291, as claimed.

No. 38679. — Protests 752715, etc., of Merek & Co. (New York).

LANOLIN — WOOL GREASE. — Merchandise classified as lanolin at 1 cent per pound under paragraph 44, tariff act of 1913, is claimed dutiable under the provision in the same paragraph for wool grease at one-half cent per pound.

Opinion by BROWN, G.A. There was nothing in the record to dispute the fact that the merchandise is lanolin, as classified, the appraiser stating that it is so-called *Adeps Lanæ cum aqua* and *Adeps Lanæ anhydrous*, also known as lanolin. Protests overruled. Abstract 37593 noted.

No. 38691. — Protest 784228 of Chas. F. Cross & Co. (Boston).

MOHAIR NOILS — WOOL WASTE. — Mohair noils classified under paragraph 384, tariff act of 1913, are claimed free of duty as wool waste under paragraph 651.

Opinion by HAY, G.A. On the authority of *United States v. Ringk* (6 Ct. Cust. Appls., —; T.D. 35392) mohair noils were held entitled to free entry under paragraph 651, as claimed.

No. 38718. — Protests 773518, etc., of W. H. Stiner & Son et al. (New York).

WEARING APPAREL IN PART OF BRAID AND ORNAMENTS. — Ladies' woolen wearing apparel trimmed with braid and ornaments, classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, is claimed dutiable as wool wearing apparel at 35 per cent under paragraph 291.

Opinion by COOPER, G.A. The provision for wearing apparel in paragraph 291 was held more specific than that for articles in part of braid in paragraph 358. Protests sustained.

No. 38781. — Protests 772800, etc., of E. McConnell & Co. (New York).

FLANNELS. — Flannels reported by the appraiser to be composed wholly or in chief value of wool, used in the manufacture of outer wearing apparel, classified as wool cloth, or wool dress goods, at 35 per cent ad valorem, under paragraph 288 or 290, tariff act of 1913, are claimed dutiable as flannels at 25 or 30 per cent under paragraph 289.

Opinion by BROWN, G.A. On the authority of G.A. 7772 (T.D. 35703), holding woolen flannel material used for outer garments and for pajamas dutiable under paragraph 289, the protests were sustained.

No. 38782. — Protest 774680 of Brown & Roese (New York).

FLANNELS. — Merchandise classified as wool cloth or dress goods at 35 per cent ad valorem under paragraph 288 or 290, tariff act of 1913, is claimed dutiable as flannels at 30 per cent under paragraph 289.

Opinion by BROWN, G.A. The material, known as French flannel, was found to be of flannel weave and texture, generally used for under-wear and infants' wear, was held dutiable as flannel at 30 per cent under paragraph 289, as claimed. G.A. 7772 (T.D. 35703) followed.

No. 38806. — Protests 781783, etc., of A. H. Ringk & Co. et al. (New York).

CASHMERE NOILS — WOOL WASTE. — Cashmere noils classified as the hair of the Cashmere goat at 15 per cent ad valorem under paragraph 305, tariff act of 1913, are claimed free of duty as wool noils under paragraph 651.

Opinion by BROWN, G.A. The Cashmere noils in question were held entitled to free entry as mohair noils under paragraph 651, as claimed. Abstract 38198 followed.

No. 38807. — Protest 772290-55554 of G. W. Sheldon & Co. (Chicago).

WOOL WEARING APPAREL. — Waterproof coats composed of wool, cotton, and rubber, classified as wearing apparel in chief value of wool at 35 per cent under paragraph 291, tariff act of 1913, are claimed dutiable as in chief value of cotton under paragraph 256, or as manufacturers of india rubber at 10 per cent under paragraph 368.

Opinion by BROWN, G.A. Protest unsupported; overruled.

No. 38808. — Protest 770635-55544 of Geo. W. Sheldon & Co. (Chicago).

WOOL CLOTH. — Merchandise reported by the appraiser to consist of a woven fabric composed of wool and cattle hair, wool chief value, was classified at 35 per cent ad valorem under paragraph 288, tariff act of 1913. It is claimed dutiable as cloth made in chief value of cattle hair at 25 per cent under the same paragraph.

Opinion by BROWN, G.A. Protest unsupported; overruled.

No. 38846. — Protests 742252, etc., of F. S. Carr Co. (Boston).

MOHAIR FANCY — WOOL CLOTH. — Certain cloth invoiced as mohair fancy, classified as mohair and cotton cloth, mohair chief value, at 40 per cent ad valorem under paragraph 308, tariff act of 1913, is claimed dutiable as cloth or manufactures in chief value of wool at 35 per cent under paragraph 288.

Opinion by BROWN, G.A. It was found that no mohair is used in the manufacture of this cloth and that it is composed in chief value of luster wool. It was held dutiable at 35 per cent under paragraph 288, as claimed.

No. 38863. — Protest 762838 of A. H. Ringk & Co. (New York).

MOHAIR BACKINGS — WASTE. — Merchandise invoiced as mohair backings, classified as waste at 10 per cent ad valorem under paragraph 384, tariff act of 1913, is claimed entitled to free entry under paragraph 651.

Opinion by HAY, G.A. On the authority of G.A. 7649 (T.D. 34997), affirmed in *United States v. Ringk* (6 Ct. Cust. Appl., —; T.D. 35392), the mohair backings in question were held free of duty under paragraph 651.

194 NATIONAL ASSOCIATION OF WOOL MANUFACTURERS.

No. 38912. — Protests 758308 and 768037 of Kronfeld, Saunders & Co. (New York).

WOOL WEARING APPAREL IN PART OF BRAIDS OR ORNAMENTS. — Coats, vests, trousers, and other articles of wearing apparel in part of braid, classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable at 35 per cent under paragraph 291.

Opinions by HOWELL, G.A. G.A. 7597 (T.D. 34755) followed holding certain wearing apparel trimmed with braid dutiable as wool-wearing apparel at 35 per cent under paragraph 291. *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —; T.D. 35388) noted.

No. 38921. — Protest 782454 of J. J. Gavin & Co. (New York).

FLANNELS. — Merchandise reported by the appraiser to be flannels used in the manufacture of outer wearing apparel, classified as wool cloth or dress goods at 35 per cent ad valorem under paragraph 288 or 290, tariff act of 1909,¹ is claimed dutiable as wool flannels at 25 or 30 per cent under paragraph 289.

Opinion by BROWN, G.A. On the authority of G.A. 7772 (T.D. 35703) the flannels in question were held dutiable under paragraph 289, as claimed.

No. 38922. — Protest 774249-55454 of Carson, Pirie, Scott & Co. (Chicago).

HOODS — WOOL WEARING APPAREL. — Wool hoods trimmed with a fringe of artificial silk, classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable as wool wearing apparel at 35 per cent under paragraph 291.

Opinion by BROWN, G.A. The hoods in question are not embroidered or made in part of lace and the trimming does not cover the whole surface, but only the edge. On the authority of G.A. 7597 (T.D. 34755) and *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —; T.D. 35388), affirming G.A. 7613 (T.D. 34823), the hoods were held properly dutiable as wool wearing apparel under paragraph 291, as claimed.

No. 38927. — Protests 778623, etc., of E. Newgass & Co. (New York).

WOOLEN COATS — EMBROIDERED WEARING APPAREL. — Merchandise classified as embroidered wearing apparel at 60 per cent ad valorem under paragraph 358, tariff act of 1913, invoiced as woolen coats, is claimed dutiable as wool wearing apparel not embroidered at 35 per cent under paragraph 291.

Opinion by HOWELL, G.A. A piece of cloth intended to represent a finished pocket, having at either end of the opening a triangular-shaped

¹ Probably typographical error for 1913.

ornamentation known as a "crow's foot," was received in evidence to represent the ornamentation appearing on the goods in question. It was found that the so-called crow's foot is intended not only to give strength and firmness to the corners of the pocket, but ornaments it as well. There was no evidence that the ornamentation does not in fact constitute embroidery. Protests overruled.

No. 38951. — Protests 782345, etc., of A. H. Ring & Co. et al. (New York).

WEARING APPAREL IN PART OF TRIMMINGS. — Articles of wearing apparel classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable at 45 per cent under paragraph 309.

Opinion by HOWELL, G.A. The goods in question were found to consist of articles of wearing apparel made in part of netting, braids, trimmings, or ornaments in chief value of cotton, silk, wool, and mohair plush, respectively. They were held dutiable as wearing apparel (1) in chief value of cotton, at 30 per cent under paragraph 256; (2) in chief value of silk, at 50 per cent under paragraph 317; and (3) in chief value of wool, at 35 per cent under paragraph 291. Wearing apparel composed of pluses made from mohair was held dutiable at 45 per cent under paragraph 309, which paragraph was found to be more specific than paragraph 358. *Hartranft v. Meyer* (135 U.S. 237) and G.A. 7613 (T.D. 34823), affirmed in *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —: T.D. 35388), followed.

No. 38985. — Protests 759037, etc., of P. C. Kuyper & Co. et al. (New York).

WEARING APPAREL IN PART OF BRAID. — Articles of wearing apparel classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable as silk, cotton, or wool wearing apparel at the appropriate rate under paragraph 317, 256, or 291.

Opinion by HOWELL, G.A. The wearing apparel in question was held dutiable according to the component material of chief value, as follows: (1) Silk at 50 per cent under paragraph 317; (2) cotton at 30 per cent under paragraph 256; and (3) wool at 35 per cent under paragraph 291. *Snow's United States Sample Express Co. v. United States*, G.A. 7613 (T.D. 34823), affirmed in *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —: T.D. 35388).

No. 39120. — Protest 752915-50171 of Marshall Field & Co. (Chicago).

WOOL DRESS GOODS. — Dress goods claimed to be in chief value of wool, dutiable at 35 per cent ad valorem under paragraph 290, tariff act of 1913, were returned by the appraiser as woven fabrics in chief

value of hair of the Angora goat, and classified at 40 per cent under paragraph 308.

Opinion by BROWN, G.A. From the evidence it was found that the fabrics are composed in chief value of wool of the sheep. They were held dutiable at 35 per cent under paragraph 290, as claimed.

No. 39121. — Protest 784943 of C. Bahnsen & Co. (New York).

MOHAIR PILE FABRICS. — The appraiser reported the merchandise in question to be pile fabrics composed in chief value of Angora goat hair. It was classified at 45 per cent under paragraph 309, and is claimed dutiable as cloth composed wholly or in chief value of wool at 35 per cent under paragraph 288.

Opinion by BROWN, G.A. Protest unsupported; overruled.

No. 39134. — Protests 766097-52415, etc., of Marshall Field & Co. (Chicago).

FLANNELS. — Merchandise reported by the appraiser to consist of woven woolen fabrics, in the piece, of light weight and of the character used for women's dress goods, classified at 35 per cent ad valorem under paragraph 290, tariff act of 1913, is claimed dutiable as flannels at 30 per cent under paragraph 289.

Opinion by BROWN, G.A. From the evidence it was found that the merchandise is used principally for underwear and night wear. It was held dutiable as flannels at 30 per cent under paragraph 289, as claimed. Abstract 38439 and G.A. 7772 (T.D. 35703) followed.

No. 39135. — Protests 786108, etc., of Brown & Roese et al. (New York).

FLANNELS. — It is claimed in this case that certain flannels are dutiable at 25 or 30 per cent ad valorem under paragraph 289.

Opinion by BROWN, G.A. On the authority of G.A. 7772 (T.D. 35703), deciding that the term "flannels" includes woolen flannel materials used for certain outer garments, and also for pajamas, etc., it was held that the flannels here in question are dutiable at 25 or 30 per cent, according to the value per pound, under paragraph 289, as claimed.

No. 39156. — Protest 776312 of E. McConnell & Co., protests 781306, etc., of Abraham & Straus et al., protest 781891 of Oscar Hofmann, and protests 782642, etc., of Brooks Bros. et al. (New York).

FLANNELS. — Merchandise classified as wool cloth or dress goods, under paragraph 288 or 290, tariff act of 1913, is claimed dutiable as flannels at 25 or 30 per cent ad valorem under paragraph 289.

Opinions by BROWN, G.A. On the authority of G.A. 7772 (T.D. 35703) the flannels in question were held dutiable under paragraph 289, as claimed.

No. 39179. — Protests 761741, etc., of C. A. Auffmordt & Co. (New York).

DRESS GOODS, COTTON AND WOOL. — Dress goods composed of cotton, wool, and Angora goat hair, classified at 40 per cent *ad valorem* under paragraph 308, tariff act of 1913, is claimed dutiable at 35 per cent under paragraph 288. Dress goods classified at 35 per cent under paragraph 290 is claimed dutiable at 30 per cent under paragraph 266.

Opinion by BROWN, G.A. The dress goods in question found to be composed in chief value of wool was held dutiable at 35 per cent under paragraph 288 or 290. That composed in chief value of cotton was held dutiable at 30 per cent under paragraph 266. Protests sustained in part.

No. 39278. — Protest 793904 of H. F. Hammond (Boston).

WOOL GREASE. — Merchandise classified as grease not specially provided for, at 15 per cent *ad valorem*, is claimed dutiable as wool grease at one-fourth of 1 cent per pound under paragraph 44.

Opinion by McCLELLAND, G.A. The commodity in question was held dutiable as wool grease, as claimed.

No. 39284. — Protest 774865 of Mann & Longini Shoe Co. (Cleveland).

WOOL SLIPPERS. — Slippers returned by the appraiser as composed of wool, leather, and cattle hair, wool chief value, classified as wearing apparel in chief value of wool under paragraph 291, tariff act of 1913, at 35 per cent *ad valorem*, are claimed free of duty as shoes in chief value of leather under paragraph 530.

Opinion by BROWN, G.A. The statement of the manufacturer as to the cost of the respective component materials was held incompetent evidence of the facts to be proved. Protest overruled. United States *v.* Hogan (5 Ct. Cust. Appl., 1; T.D. 34001) followed.

No. 39304. — Protests 790152, etc., of Thos. Meadows & Co. (New York).

FLANNELS. — Flannels classified at 35 per cent *ad valorem* under paragraph 290, tariff act of 1913, are claimed dutiable at 25 or 30 per cent under paragraph 289.

Opinion by BROWN, G.A. Upon stipulation of counsel that the merchandise is of the same character as that passed upon in G.A. 7772 (T.D. 35703), it was held dutiable as flannels under paragraph 289, as claimed.

No. 39353. — Protest 795841 of A. H. Ringk & Co. (New York).

CASHMERE NOILS — WOOL WASTE. — Cashmere noils classified at 15 per cent *ad valorem* under paragraph 305, tariff act of 1913, are claimed free of duty as wool waste under paragraph 651.

Opinion by BROWN, G.A. On the authority of Abstracts 38198 and 38806 cashmere noils were held free of duty under paragraph 651, as claimed.

No. 39380. — Protest 775312 of Thos. Meadows & Co. (New York).

SLIPPERS OF COTTON AND WOOL. — Cotton slippers and wool slippers with silk ornaments, classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable as cotton wearing apparel at 30 per cent under paragraph 256, or as wool wearing apparel at 35 per cent under paragraph 291.

Opinion by COOPER, G.A. The cotton slippers in question were held dutiable under paragraph 256 and the wool slippers under paragraph 291, on the authority of *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., —; T.D. 35388), affirming G.A. 7613 (T.D. 34823).

No. 39393. — Protests 760817, etc., of Wm. Anderson & Co. et al. (New York).

FLANNELS. — Goods returned as wool chief value or wholly of wool, classified at 35 per cent ad valorem under paragraph 288 or 290, tariff act of 1913, are claimed dutiable as flannels at 25 per cent under paragraph 289.

Opinion by BROWN, G.A. It was found that the goods in question consist principally of shirting flannels used for waists, shirts, and infants' wear. They were held dutiable under paragraph 289, as claimed. Protests sustained in part.

COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL AND MANUFACTURES OF WOOL FOR THE TWELVE MONTHS ENDING DECEMBER 31, 1914 AND 1915.

GROSS IMPORTS.

ARTICLES AND COUNTRIES.	Quantities for Twelve Months ending December 31.		Values for Twelve Months ending December 31.	
	1914.	1915.	1914.	1915.
WOOL, HAIR OF THE CAMEL, GOAT, ALPACA, AND OTHER LIKE ANIMALS, AND MANUFACTURES OF:				
UNMANUFACTURED—				
Class 1—Clothing (free)				
Imported from—				
Belgium	7,544,422		\$2,184,408	
United Kingdom	52,257,238	43,485,636	13,850,309	\$12,145,668
Argentina	33,109,723	86,926,879	7,219,186	21,740,176
Uruguay	7,874,574	15,823,599	1,828,599	4,400,783
Australia and Tasmania	29,483,881	101,929,674	7,279,308	24,248,747
New Zealand	4,646,273	836,019	1,015,610	213,103
Other countries	12,774,811	46,660,031	3,315,315	7,616,873
Total	147,690,922	205,564,838	\$36,692,635	\$70,365,350
Class 2—Combing (free)				
Imported from—				
Turkey in Europe	58,543		\$13,052	
United Kingdom	15,533,550	4,841,016	4,227,311	\$1,457,087
Canada	6,097,792	6,797,551	1,359,782	1,980,723
South America	675,881	501,499	142,699	80,047
Other countries	1,133,211	1,034,041	171,207	236,152
Total	23,499,277	13,264,107	\$5,914,051	\$3,754,009
Class 3—Carpet (free)				
Imported from—				
Russian Empire	16,676,320	2,976,397	\$2,709,207	\$576,152
United Kingdom	19,782,895	25,311,885	3,679,091	5,559,570
Other Europe	7,276,313	2,551,533	1,430,066	514,035
Argentina	4,054,297	12,878,291	632,660	2,756,999
China	29,158,674	41,452,568	4,394,170	7,224,510
East Indies	2,609,885	2,438,669	466,277	597,480
Turkey in Asia	3,805,259	360,831	723,778	77,499
Other countries	1,947,117	5,812,131	363,732	1,022,921
Total	85,310,760	93,782,305	\$14,398,981	\$18,329,166
Hair of the Angora goat, etc. (dutiable)	3,663,566	10,110,042	\$1,299,665	\$2,594,091
Total wool	260,164,525	412,721,292	\$58,305,332	\$95,042,618
MANUFACTURES OF—				
Carpets and carpeting (dutiable)				
Imported from—				
Turkey in Europe	127,307	15,961	\$649,053	\$72,717
United Kingdom	474,379	461,489	928,040	894,210
Asia	497,501	324,303	2,235,532	1,047,517
Other countries	103,658	48,340	356,293	330,196
Total	1,202,845	850,093	\$4,171,918	\$2,344,640

COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL, ETC.

GROSS IMPORTS.—*Continued.*

ARTICLES AND COUNTRIES.	Quantities for Twelve Months ending December 31.		Values for Twelve Months ending December 31.	
	1914.	1915.	1914.	1915.
CLOTHS (dutiable)				
Imported from—				
Belgium	701,247	374,679	\$838,764	\$442,988
Germany	2,863,967	217,381	3,156,343	258,354
United Kingdom . . .	11,128,073	6,212,561	10,029,924	6,001,007
Other countries . . .	1,559,883	221,655	1,790,953	258,230
Total	16,253,170	lbs. 7,026,276 } sq. yds. 10,657,502 }	\$15,815,984	\$6,960,579
DRESS GOODS, WOMEN'S AND CHILDREN'S—				
Imported from—				
France	3,116,564	57,307	\$3,278,814	\$75,076
Germany	1,453,975	446,317	1,670,852	518,866
United Kingdom . . .	5,343,610	2,744,499	4,409,206	2,468,854
Other countries . . .	302,198	71,638	219,565	89,101
Total	10,216,347	lbs. 3,319,761 } sq. yds. 13,114,995 }	\$9,578,437	\$3,151,897
Press cloths for oil milling purposes (free) . . .				
Tops, pounds (dutiable)	1,258,266		\$103,326	\$52,773
Wearing apparel (dutiable)				
Wool wastes (free)			2,237,807	1,117,111
Yarn, pounds (dutiable)	102,786		1,002,752	1,031,111
Hair of the goat, etc., manufactures of				179,392
All other			8,109,035	1,310,687
Total, All other			3,081,340	1,151,040
Total manufactures			\$14,534,260	\$4,868,278
Total wool and manufactures of			\$44,100,599	\$17,325,394

¹ Beginning July 1, 1915.

COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL, ETC.—Concluded.

EXPORTS OF WOOL AND MANUFACTURES OF.

FOREIGN.

ARTICLES.	1914.	1915.	1914.	1915.
	Quantities.	Quantities.	Values.	Values.
WOOL, HAIR OF THE CAMEL, GOAT, ALPACA, AND OTHER LIKE ANIMALS, AND MANUFACTURES OF:				
UNMANUFACTURED—				
Wool of the sheep, hair of the goat, camel, and other like animals:				
Class 1—Clothing (free) lbs.	5,180,092	1,443,626	\$1,453,905	\$450,697
Class 2—Combing " "	128,335	30,870	33,272	9,349
Class 3—Carpet " "	1,033,938	606,874	178,189	121,683
Hair of the Angora goat, alpaca, and other like animals (dutiable), lbs.	83,557	16,581	25,762	3,570
Total unmanufactured	6,425,922	2,097,951	\$1,691,128	\$585,299

DOMESTIC.

WOOL, AND MANUFACTURES OF:				
Wearing apparel:				
Exported to:				
France				\$4,388,327
United Kingdom				1,096,865
Canada				1,229,791
Mexico				236,921
Other countries				9,365,613
Total wearing apparel			\$4,676,424	\$16,267,517
Woolen rags	30,438,019	16,794,090	1,335,053	1,315,233
All other			6,468,065	25,012,460
Total			\$12,479,542	\$42,595,210

WOOL AND MANUFACTURES OF WOOL REMAINING IN BONDED
WAREHOUSE DECEMBER 31, 1914 AND 1915.

ARTICLES.	1914.	1915.	1914.	1915.
	Quantities.	Quantities.	Values.	Values.
WOOL, HAIR OF THE CAMEL, GOAT, ALPACA, AND OTHER LIKE ANIMALS, AND MANUFACTURES OF:				
UNMANUFACTURED—				
*Hair of the Angora goat, alpaca, and other like animals, lbs. . . .	1,092,457	2,064,474	\$363,862	\$596,584
MANUFACTURES OF—				
Carpets and rugs, sq. yds.	187,083	19,288	\$871,781	\$96,558
Cloths:				
Lbs.	1,639,500	1,310,790	1,599,778	1,330,154
Sq. yds.	3,581,532	2,637,211		
Dress goods, women's and children's:				
Lbs.	2,202,981	891,908	1,682,348	575,293
Sq. yds.	8,342,581	3,169,591		
Tops		61,238	259,572	43,644
Wearing apparel				240,570
Hair of the Angora goat, alpaca, etc.			444,531	170,860
All other			718,565	483,249
Total manufactures of			\$5,576,575	\$2,940,328

* Wool being free of duty is not stored in government warehouses.

QUARTERLY REPORT OF THE BOSTON WOOL MARKET FOR JANUARY, FEBRUARY, MARCH, 1916, AND MARCH, 1915.

DOMESTIC WOOLS. (GEORGE W. BENEDICT.)

	1916.			1915.
	January.	February.	March.	March.
OHIO, PENNSYLVANIA, AND WEST VIRGINIA.				
(WASHED.)				
XX and above	32 8 33	33 8 34	33 8 34	33 8 34
X	30 8 31	30 8 31	31 8 32	31 8 32
Blood	39 8 40	39 8 40	40 8 41	39 8 40
"	40 8 41	40 8 42	41 8 42	39 8 40
Fine Delaine	40 8 41	40 8 42	41 8 42	38 8 39
35 8 36	37 8 38	39 8 40	36 8 37	
(UNWASHED.)				
Fine	27 8 28	27 8 28	28 8 30	28 8 29
Blood	35 8 36	35 8 36	36 8 37	36 8 37
"	38 8 39	39 8 40	39 8 40	37 8 38
Fine Delaine	38 8 39	39 8 40	39 8 40	37 8 38
32 8 33	32 8 33	33 8 34	32 8 33	
MICHIGAN, WISCONSIN, NEW YORK, ETC.				
(UNWASHED.)				
Fine	25 8 26	26 8 27	27 8 28	26 8 27
Blood	34 8 35	34 8 35	35 8 36	34 8 35
"	37 8 38	38 8 39	38 8 39	36 8 37
Fine Delaine	37 8 38	38 8 39	38 8 39	36 8 37
29 8 30	29 8 30	30 8 31	30 8 31	
KENTUCKY AND INDIANA.				
(UNWASHED.)				
Blood	39 8 40	40 8 41	40 8 41	37 8 38
"	38 8 39	39 8 40	39 8 40	37 8 38
Braid	33 8 34	33 8 34	33 8 34	31 8 32
MISSOURI, IOWA, AND ILLINOIS.				
(UNWASHED.)				
Blood	36 8 37	37 8 38	37 8 38	35 8 36
"	36 8 37	37 8 38	37 8 38	35 8 36
Braid	31 8 32	32 8 33	32 8 33	30 8 31
TEXAS.				
(SCOURED BASIS.)				
12 months, fine, and fine medium . . .	68 8 70	70 8 72	73 8 75	70 8 72
Spring, fine and fine medium	60 8 62	62 8 65	62 8 65	63 8 65
Fall, fine and fine medium	55 8 57	55 8 57	55 8 57	58 8 60
CALIFORNIA.				
(SCOURED BASIS.)				
12 months, fine	65 8 67	66 8 68	68 8 70	67 8 68
Spring, fine	60 8 62	60 8 62	60 8 62	60 8 62
Fall, fine	54 8 56	54 8 56	54 8 56	58 8 60
TERRITORY WOOL: Montana, Wyoming, Utah, Idaho, Oregon, etc.				
(SCOURED BASIS.)				
Staple, fine and fine medium	73 8 74	76 8 78	76 8 78	72 8 74
Clothing, fine and fine medium	69 8 71	72 8 74	72 8 74	68 8 70
Blood	70 8 71	73 8 75	73 8 75	68 8 70
"	68 8 70	70 8 72	70 8 72	65 8 67
"	64 8 66	65 8 67	65 8 67	60 8 62
NEW MEXICO.				
(SCOURED BASIS.)				
No. 1	66 8 68	68 8 70	68 8 70	68 8 70
No. 2	59 8 61	62 8 64	62 8 64	65 8 67
No. 3	54 8 56	55 8 57	55 8 57	60 8 62
GEORGIA AND SOUTHERN.				
Unwashed	33 8 35	33 8 35	33 8 35	32 8 34

MARCH 31, 1916.

DOMESTIC WOOL.

The market for domestic wool during the first quarter of the year has been steady but without any great activity, as manufacturers have been more interested in foreign offerings, a larger percentage of which they have blended in their heavy weight samples than ever before.

The embargo which had been placed on imports of New Zealand wools in January naturally had the effect of stimulating prices of medium grades of domestic wool and an advance of about 5 per cent is noted during the quarter. Good staple fine and fine medium territory wools have advanced somewhat in proportion to the better grades of Australian, being quoted at from 75 to 78 cents clean and are in light supply. Clothing grades and inferior wools have been rather neglected.

Considerable contracting has been done in the West at prices from 3 to 5 cents per pound or 15 to 20 per cent higher than last year.

The Arizona clip is now being shorn and some few purchases have been made from the country at 29 to 30 cents for the best wools.

Manufacturers are extremely busy and there is probably more machinery now running than ever before, demanding a very heavy consumption of wool. From all appearances, wool prices are likely to range high for some months to come.

GEORGE W. BENEDICT.

PULLED WOOLS. (W. A. BLANCHARD.)

	1916.			1915.
	January.	February.	March.	March.
Extra, and Fine A	70 @ 76	70 @ 78	72 @ 80	67 @ 72
A Super	62 @ 67	63 @ 68	64 @ 70	65 @ 70
B Super	58 @ 63	60 @ 64	60 @ 67	62 @ 70
C Super	50 @ 54	50 @ 55	50 @ 56	50 @ 55
Fine Combing	70 @ 75	73 @ 78	75 @ 80	67 @ 72
Medium Combing	65 @ 67	67 @ 70	70 @ 73	63 @ 68
Low Combing	60 @ 63	62 @ 65	63 @ 67	55 @ 62

APRIL 1, 1916.

PULLED WOOLS.

Wools of sufficient staple for combing purposes were in active demand throughout the quarter and steadily increased in value. The buying by woolen manufacturers was largely of the finer grades, and medium and low wools were in moderate request. Late in March there was a movement of considerable volume in A and B supers, although the buying was confined to a few of the larger mills.

In contrast to the market of a year ago business was devoid of speculation and purchases were mainly for actual consumption. Pullers sales have kept well up to production both east and west.

W. A. BLANCHARD.

FOREIGN WOOLS. (MAUGER & AVERY.)

	1916.			1915.
	January.	February.	March.	March.
Australian Combing:				
Choice	33 @ 41	40 @ 44	41 @ 45	33 @ 34
Good	37 @ 39	39 @ 41	39 @ 42	32 @ 33
Average	34 @ 35	35 @ 36	35 @ 36	30 @ 32
Australian Clothing:				
Choice	36 @ 37	37 @ 38	37 @ 38	31 @ 33
Good	34 @ 35	35 @ 36	35 @ 36	30 @ 32
Average	33 @ 34	33 @ 35	33 @ 35	29 @ 31
Sydney and Queensland:				
Good Clothing	36 @ 37	37 @ 38	37 @ 38	31 @ 33
Good Combing	37 @ 38	39 @ 41	40 @ 42	32 @ 33
Australian Crossbred:				
Choice	48 @ 50	48 @ 50	48 @ 50	*
Average	45 @ 46	45 @ 46	45 @ 46	*
Australian Lambs:				
Choice	33 @ 35	33 @ 36	33 @ 36	32 @ 34
Good	32 @ 33	32 @ 34	32 @ 34	31 @ 32
Good Defective	30 @ 31	30 @ 32	30 @ 32	30 @ 31
Cape of Good Hope:				
Choice	32 @ 33	33 @ 34	33 @ 34	27 @ 28
Average	25 @ 27	25 @ 27	25 @ 27	20 @ 24
Montevideo:				
Choice	40 @ 42	40 @ 42	40 @ 42	32 @ 33
Average	38 @ 40	38 @ 40	38 @ 40	28 @ 30
Crossbred, Choice	36 @ 39	38 @ 40	38 @ 40	36 @ 37
English Wools:				
Sussex Fleece	*	*	*	*
Shropshire Hogs	48 @ 50	48 @ 50	48 @ 50	*
Yorkshire Hogs	*	*	*	*
Irish Selected Fleece	*	*	*	*
Carpet Wools:				
Scotch Highland, White	26 @ 28	26 @ 28	26 @ 28	23 @ 24
East India, 1st White Joria	41 @ 44	42 @ 45	42 @ 45	*
East India, White Kandahar	36 @ 39	38 @ 40	38 @ 40	*
Donskoi, Washed, White	*	*	*	*
Aleppo, White	40 @ 45	40 @ 45	40 @ 45	*
Chlua Ball, White	32 @ 36	32 @ 36	32 @ 36	30 @ 33
" " No. 1, Open	33 @ 36	33 @ 36	33 @ 37	29 @ 31
" " No. 2, Open	28 @ 30	28 @ 31	28 @ 31	23 @ 25

* Out of market.

FOREIGN WOOLS.

The demand for foreign wools during the period under review has continued steady, though, owing to the very large arrivals of wools bought direct in Australia for manufacturers' account, there is not quite so much animation at the close as at the beginning of the period.

Prices, however, are firmly maintained, and in view of the speculative contracts for the growing clips in the territories, it would appear that values would not suffer from the competition of domestic wools.

South American wools have been in moderate request, but the inquiry has been largely for wools of 3-grade, though at a price there has been an outlet among the mills for Lincoln wools.

Owing to the embargo against shipments of India wools on the part of the British and Indian governments these wools have not been available to any extent, though much needed by certain manufacturers.

The woolen and worsted mills are all crowded with orders, mainly for goods for domestic consumption and the immediate future is encouraging.

MAUGER & AVERY.

BOSTON, April 3, 1916.

THE TEXTILE BUREAU.

An office in connection with the work of the Textile Bureau, to prevent the fraudulent undervaluation of imported textile manufactures, has been opened on the sixth floor of the Singer Annex, 95 Liberty Street, New York. Every instance of imported goods sold here at prices that suggest a probability of undervaluation should be immediately reported to the Bureau at the above address.

JOHN P. WOOD,
Director.

B U L L E T I N

OF THE

National Association of Wool Manufacturers

A QUARTERLY MAGAZINE

DEVOTED TO THE INTERESTS OF THE NATIONAL WOOL INDUSTRY.

VOL. XLVI.]

BOSTON, JULY, 1916.

[No. III.

THE DYESTUFF SITUATION.

A LAME PROTECTIONIST BILL INTRODUCED IN PLACE OF
THE HILL BILL.

THE past three months have brought no relief to the dyestuff situation in the United States except through the intelligent and persistent efforts of American dyestuff manufacturers who, in the face of great difficulties and great hazards, have been increasing their plants and by experience improving the quality of their products. The British government early in May blasted the hopes of those who looked for a promised 15,000-ton shipment of dyestuffs from Germany by signifying through Lord Robert Cecil, Minister of War Trade, that "It was not to the interest of Great Britain" to permit such a large quantity of German dyestuffs to reach America. It is estimated that the value of 15,000 tons of German dyes under present conditions might be as high as \$150,000,000, and the British refusal to allow the shipment to come in was said to be due to a desire to prevent the German government from employing the transaction "to keep up the exchange rate."

Whatever the reasons, these great quantities of German dyestuffs did not come, and the shipment of two hundred tons or so that reached Baltimore July 9 in the pioneer submarine liner *Deutschland* represented scarcely a drop in the bucket of needful American consumption. That Germany is aware of the efforts being made in all manufacturing countries to establish independent dyestuff industries is made manifest in

recent efforts to reorganize and strengthen the principal German dye manufacturing corporations. These corporations formed in May a "community of interest," with a total capital of \$55,000,000. This is a long step in preparation to meet British and American competition in dyestuff making after the end of the great war. The German manufacturers, of course, will not easily surrender the control of the markets of the world, which they have attained by forty years of untiring skill and perseverance.

In Great Britain the output of British Dyes, Ltd., the concern subsidized by the government, is being sold at cost to the contributing firms, who are under obligation to use the dyes themselves and not to sell them. Even now the new British plant is not completed, and is wholly unable to cope with the situation. There are complaints that the British enterprise is not being properly supported by some British textile manufacturers. Small imports of German dyes into the United Kingdom have come from the cargoes of outgoing German steamships captured in Allied ports or by Allied cruisers in the opening days of the war. These supplies were carefully parceled out, but their total amount was not considerable.

Though the British subsidy has made capital immediately available, British dye-makers are now asking for a tariff protection after the war has closed. It is stated that the German government exempted one partner in each dyestuff concern from army service; that the dyestuff plants, while partly devoted to the making of explosives, have produced considerable quantities of standard dyes; that they have increased their dividends and strengthened their financial position, and that they have generously increased the wages of their workmen.

In the United States it is estimated that \$10,000,000 of private capital has been invested in the development of dye plants during the past eighteen months. Textile manufacturers declare that the output of these plants is proving more and more acceptable, though the deficiency in quantity is still far from being overcome.

During the consideration in the United States Senate of the bill continuing the duty on sugar, Senator Lodge of Massachusetts forced a frank debating of the dyestuff question, through the introduction as an amendment of the dyestuff bill that had been presented in the House by Representative Hill of Connecticut. Protectionist Senators solidly supported the amendment, but anti-protectionist Senators voted against it, and it was defeated 25 to 41. That was on April 10 last, and the action of the Democratic majority of the Senate was recognized the country over as blundering and disastrous. The national conventions were held in June; the national election was impending. On July 1, Chairman Kitchin of the House Committee on Ways and Means, Democratic floor leader of the House of Representatives, in introducing a revenue bill to meet the increasing deficit and provide means for the national defence, added a section providing for duties on dyestuffs somewhat less than those proposed in the Hill bill. The Hill bill had made crude products of coal tar dutiable at 5 per cent ad valorem. The Kitchin plan put these on the free list. The Hill bill had a duty of three and three-quarters cents per pound and 15 per cent ad valorem on the so-called intermediates. The Kitchin bill has a duty of two and one-half cents a pound and 15 per cent ad valorem. The Hill bill had a duty of seven and one-half cents a pound and 30 per cent ad valorem on finished colors or dyes. The Kitchin bill has a duty of five cents a pound and 30 per cent ad valorem. But there was no time limit under the Hill proposal, while the Democratic proposal calls for an annual reduction of 20 per cent of the specific duties after five years, and if, after these five years, it is found that less than 60 per cent in value of these intermediates and dyestuffs is being produced in the United States, the specific duties are to be abandoned. The full text of the Kitchin dyestuff proposal is as follows:

TITLE — DYESTUFFS.

Section 400. That on and after the day following the passage of this Act, except as otherwise specially provided for in this

title, there shall be levied, collected, and paid upon the articles named in this section, when imported from any foreign country, into the United States or into any of its possessions, except the Philippine Islands and the Islands of Guam and Tutuila, the rates of duties which are prescribed in this title, namely:

FREE LIST.

Group I. Acenaphthene, anthracene, benzol, carbazol, cresol, cumol, fluorene, methylanthracene, methylnaphthalene, naphthalene, pyridin, quinolin, toluol, xylol, crude coal tar, pitch of coal tar, dead or creosote oil, anthraeene oil, all other distillates which on being subjected to distillation yield less than five per centum of tar acids in the portion distilling below two hundred degrees centigrade, and all other products that are found naturally in coal tar, whether produced or obtained from coal tar, or other source, and not otherwise specially provided for in this title, shall be exempt from duty.

DUTIABLE LIST.

Group II. Amidonaphthol, amidophenol, amidosalicylic acid, aniline oil, aniline salt, anthraquinone, binitrobenzol, binitrotoluol, binitronaphthalene, binitrochlorbenzol, benzaldehyde, benzylchloride, benzidin, chlorphthalic acid, cumidin, dianisidin, dimethylanilin, dioxynaphthalene, diphenylamin, methylantraquinone, metanilic acid, nitrobenzol, nitrotoluol, nitronaphthalene, nitraniline, nitrophenylenediamine, nitrotoluenediamine, naphthylamine, naphthol, naphthylenediamine, phenol, phthalic acid, phthalic anhydride, phenylenediamine, phenylnaphthylamine, resorcin, salicylic acid, sulfanilic acid, tolidin, toluidin, toluylenediamine, xylidid, or any solfoacid or sulfoacid salt of any of the foregoing, all other distillates which on being subjected to distillation yield five per centum or more of tar acids in the portion distilling below two hundred degrees centigrade, and all other products obtained, derived, or manufactured in whole or in part from the products provided for in Group I., all the foregoing not colors, dyes, or stains, photographic chemicals, or explosives, and not otherwise provided for in this title, fifteen per centum ad valorem.

Group III. All colors, dyes, or stains, whether soluble or not in water, color acids, color bases, color lakes, photo-

graphic chemicals, or explosives, not otherwise specially provided for in this title, when obtained, derived, or manufactured in whole or in part from any of the products provided for in Groups I. and II., including natural alizarin and indigo, thirty per centum ad valorem.

Section 401. That on and after the day following the passage of this Act, in addition to the duties provided in section four hundred, there shall be levied, collected, and paid upon all articles contained in Group II. a special duty of two and one-half cents per pound, and upon all articles contained in Group III. (except natural and synthetic alizarin, and dyes obtained from alizarin, anthracene, and carbazol; and natural and synthetic indigo and all indigoids, whether or not obtained from indigo) a special duty of five cents per pound.

During the period of five years beginning five years after the passage of this Act, such special duties shall be annually reduced by twenty per centum of the rate imposed by this section, so that at the end of such period such special duties shall no longer be assessed, levied, or collected; but if, at the expiration of five years from the date of the passage of this Act, the President finds that there is not being manufactured or produced within the United States as much as sixty per centum in value of the domestic consumption of the articles mentioned in groups two and three of section four hundred, he shall by proclamation so declare, whereupon the special duties imposed by this section on such articles shall no longer be assessed, levied, or collected.

Section 402. That paragraphs twenty, twenty-one, twenty-two, and twenty-three of schedule A of section one of an Act entitled "An Act to reduce tariff duties and to provide revenue for the government, and for other purposes," approved October 3, 1913, and paragraphs 394, 452, and 514 and the words "carbolic" and "phthalic," in paragraph 387 of the "free list" of section one of said Act, and so much of said Act or any existing law or parts of law as may be inconsistent with this title are hereby repealed.

The Democratic majority of the Committee on Ways and Means, in a report upon the dyestuff proposal says:

When the European war began, there were in the United States six factories employing about 400 operatives manufacturing coal-tar colors to the extent of 3,300 short tons

annually. Imports from Europe amounted to 25,700 short tons annually, thus making an annual consumption of about 29,000 short tons, valued at between \$10,000,000 and \$12,000,000. Of this quantity about 22,000 short tons came from Germany. After an existence of about 37 years the American coal-tar dyestuff industry prior to the European war was confined practically to the assembling of semi-manufactured products termed intermediates and the making of a very limited number of colors. At the present time our production of coal-tar dyes is very inadequate.

Dyes as such are not sold direct to the ultimate consumer, but to the manufacturer for use in the yearly output of manufactures, amounting to over \$2,000,000,000, which is more or less dependent upon the supply of these dyestuffs. All the silk, cotton, wool, paint, and wallpaper manufacturers must have these colors. The real consumers are these and similar industries. They ask for increased rates upon these dyestuffs. They declare they are willing to pay a higher tariff in order to help create a dyestuff supply in this country, and do not ask for an increase in the tariff rates on their finished products.

Thus far during the war the United States has only been able to produce at home a comparatively small increase in the number of colors, and is still unable to produce the quantity of dyes absolutely necessary for domestic use. The committee has decided, like Great Britain and Japan, that this war anomaly as it affects dyestuffs can only be dealt with in a manner that under normal conditions would not be wise, justifiable, or necessary.

Your committee, therefore, recommends that the coal-tar paragraphs of the tariff act of October 3, 1913, be repealed and in lieu thereof recommends that coal-tar crudes be admitted free of duty, and that the following rates be levied upon coal tar intermediates, dyes, colors, etc.:

Intermediates, two and one-half cents per pound and 15 per cent.

Synthetic alizarin, and dyes obtained from alizarin, anthracene, and carbazol; and synthetic indigo and all indigoids, whether or not obtained from indigo, 30 per cent.

All other coal-tar colors, dyes, etc., five cents per pound, and 30 per cent.

In 1913 the average export value out of Germany of intermediates was 10.07 cents per pound, and of finished dyes 21.53 cents per pound.

On the basis of these values the average rate upon coal-tar

intermediates will be 40 per cent and upon the finished colors 53 per cent.

The best information that the committee could obtain indicated that it would take five years to build up a substantial coal-tar dye industry.

In granting these high rates your committee deemed that, if the special duties of two and one-half cents on intermediates and five cents on finished dyes or colors, or any part thereof, were retained after the five-year period, the country should have evidence that a substantial portion of the dyes were being made in this country, and it has, therefore, provided that the special duties above mentioned shall not remain in force for a longer period than five years, unless a substantial portion of the coal-tar dyes are produced in this country. If, on the other hand, the domestic industry is producing a substantial portion of the home consumption, then these additional rates of duty shall be gradually reduced until at the end of another five years they will have entirely disappeared.

Unanimous comment of intelligent and informed observers on the Kitchin plan is that it is wholly inferior to the Hill plan. Thus President Herty of the American Chemical Society declares to Representative Hill that he "regrets to note the reduction by one-third of the special duties recommended by the New York section of the industry. Such reduction means no appreciable saving to the industrial American consumer, and may result in restricting the entries into this line of manufacture to financially stronger and more experienced groups, instead of opening the door wide to all."

For the sake of "saving their faces," the anti-protectionist leaders in the House have cut down the Hill rates while substantially retaining the form of that proposal. They are offering protectionist legislation, but legislation less effective, because of lowered rates, than the original proposition. They recognize the unanswerable force of the protectionist arguments, and throw a sop to the German monopoly which has within a few weeks formed an offensive and defensive organization to last for fifty years, with a view to perpetuating its dominance in the American market.

This is not exactly a brave and manly course, but that any protectionist legislation should come out of a Congress like the present one, led by an Administration like that of President Wilson, is indeed cause for congratulation on the part of the American people. The world moves ; enlightenment grows. The approach of a national election brings a quickened regard for genuine American interest. It is manifest that Chairman Kitchin and his colleagues stand in wholesome awe of the American people.

WINTHROP L. MARVIN.

THE AMERICAN WOOL INDUSTRY.

AN IMPORTANT FORTHCOMING WORK BY PROFESSOR PAUL T. CHERINGTON OF HARVARD UNIVERSITY.

(For some time Paul T. Cherington, Assistant Professor of Marketing in the Graduate School of Business Administration of Harvard University, has been engaged in the preparation of a volume upon a theme that has thus far lacked adequate presentation — the commercial problems involved in the woolen and worsted branches of the American wool manufacture. In his preparatory chapters Professor Cherington considers the history of the industry, the sources and character of its chief raw materials, imported and domestic, the work of the wool merchant and his relation to the mill, the relationship of selling problems and production problems, and the organization and methods of the selling house. Professor Cherington discusses also imported fabrics, dress goods wholesaling, the marketing of women's piece goods and styles as a factor in the undertaking, and the growth of the ready-to-wear clothing industry, as it has affected piece goods.

It is the privilege of the Bulletin to present in these pages in advance of publication the concluding chapter in this work, of so much particular interest and importance to all engaged in the wool manufacture and its allied industries in the United States. Professor Cherington's book is to be published in the autumn by the A. W. Shaw Company of Chicago, under the title, "The American Wool Industry — A Study of Some of the Commercial Problems of the Woolen and Worsted Branches of the American Wool Manufacture."

MUCH of the material for this book was gathered before the opening of the European War. Some of the conditions described here are now changed quite materially. Moreover, it is inevitable that after a return to normal conditions many of the developments from war conditions now regarded as temporary will prove to have permanent influence. There is no former event in history which offers a parallel of any great value in attempting to make a forecast of results of this war.

The Civil War in this country had far-reaching effects on the American woolen and worsted industries. Many of these effects did not develop fully for many years after the war

had ended. In somewhat the same way, although on a larger scale, the European War will no doubt change many of the aspects of the wool industries and trades of this as well as all other countries.

The ultimate effects of the war on the world's wool industries and trade cannot be predicted at this time. Some of the immediate effects are clear, however, and an enumeration of these, in so far as they affect American conditions, may be useful as a summary of some phases of the outlook for these industries :

(1) The present situation emphasizes the desirability, from a military standpoint, of independence for the United States in its manufacture of woolens and worsteds. (2) It makes more conspicuous than ever before the military strategic value of an American wool-growing industry. (3) It demonstrates our present dependence on Europe for certain parts of our machinery equipment, and on Germany for most of our dyestuffs. (4) It makes clear the desirability and the possibility of developing a larger degree of originality in design among American cloth manufacturers, and of securing full credit for the originality they already have exhibited.

It is a matter for dispute whether the military argument in favor of making the United States more nearly self-dependent as a producer of woolen and worsted cloth would alone justify attempts to extend, or even to preserve, our wool-growing and wool-manufacturing industries. In the recent agitation in favor of "preparedness" this argument has been thrown forward and given more than its usual weight. This country does not seem inclined to put its industries on a military basis, even if it does favor "preparedness." Quite aside from this military argument, however, there seems to be ample justification for a careful consideration of the problems involved in adjusting the American woolen and worsted industries to the new conditions of trade at home and abroad.

No simple program for reconstruction will suffice to meet all the difficulties involved in this complex group of indus-

tries. The chief hindrances in the way of any constructive plan arise from the economic basis of some of the main industries in the group.

Sheep raising for wool alone is, as has been pointed out, a frontier industry. On the other hand, the raising of sheep yielding a return both from wool and mutton, is an industry incident to more or less intensive agriculture. In contrast with these two, the manufacturing of wool as it is now conducted in this country is primarily an urban industry. Thus these separate complementary industries are based on three sharply-contrasted stages in economic development: pastoral development, intensive agriculture, and urban life.

Considering these divergencies in the underlying conditions of this group of industries, it is not strange that there has been difficulty in working out a form of national assistance through the tariff, satisfactory for any length of time for all three of them. At no time since the Civil War have our wool-growing industries been able to supply all the raw material for our woolen and worsted cloth-manufacturing industries. The carpet industry has always depended almost exclusively on imported wools, and probably it always will. Since 1880 the value of wool manufactures in this country has grown from \$240,000,000 to over \$500,000,000. But the sheep-raising industries have not kept pace with this growth. The American flocks numbered over 50,000,000 sheep in 1884, and they are now slightly less than that, although in 1903 they were reported by government figures at 63,000,000. They thus show no net gain in numbers. The American wool clip indicates some compensating increase in the weight of fleeces. For the ten years 1871-80 the clip averaged a little over 186,000,000 pounds, for the next decade 280,000,000 pounds, and the clip for last year was 288,000,000 pounds, although the maximum year of 1909 shows a total of 328,000,000 pounds, and for the past twenty-six years the average was 300,000,000 pounds. Imports of raw wool of all kinds have increased from an annual average of about 79,000,000 pounds for 1880-84 to an annual average of about 207,000,000 pounds for 1910-14. A notable increase in

imports of clothing wools has taken place since 1904. These figures show the extent to which the increase in raw material supply of the American manufacturing industries has been taken care of by increased imports. But as has already been shown they must be accepted with caution when the total imports are compared with domestic production, because the import figures include carpet wools, just as the figures for manufactures include carpets. The main point, however, is made clear by these figures. Stated in other terms, it is that the urban industry in this group has increased its output to twice its former size. The frontier type of wool-growing made a total gain of about 50 per cent, but this increase has now stopped, and even while it continued it was neutralized by a decline in the farm type of wool-growing. Neither of these shows possibility of recovery on the old basis of operation. This group of industries, taken as a whole, therefore, is now far less completely self-contained than it was thirty years ago. There seems to be every probability that the shortage of domestic wools for American mills will become even greater than it now is, unless some change occurs to increase the growing of the farm type of wools. And even with this development it is probable that the demands of fashion would not permanently permit any large degree of neglect of the fine wool sheep.

In their present state of disorganization the prevailing forms of wool-production cannot compete with other forms of agriculture. The inevitable conclusion seems to be that more serious attention must be given to increasing the earning power of sheep if the United States is to continue as a wool-growing country.

The situation is rendered additionally serious by the fact that what is happening in this country is taking place also to a certain extent in Australasia, the Argentine, and South Africa, the three chief sources for clothing and combing wools. Each of these countries, however, has relatively more area which, because of natural limitations, must remain pastoral than the United States has.

A "cross section" through this group of American indus-

tries clearly reveals three facts: (1) The growing of territory wools under the old range conditions which have prevailed for forty years has evidently passed its maximum. But a portion of the territory section is well adapted to ranging and ill adapted to anything else, and at the same time the world's area for the supply of such wools as can thus be raised is decreasing. The problem here clearly is to save such part of the industry as has sound economic justification and to adapt the remainder to the new conditions. (2) The amount of fleece wools grown as an incident to general farming in the States east of the Mississippi River has steadily declined for over thirty years. The number of sheep raised per acre in the fleece-wool section of this country is now far below that of England, in spite of the fact that most of the region could profitably carry at least as many-sheep per acre as England. The problem here is to convince the farmers of the opportunity for suitable sheep-raising and to show them how the sheep industry may compete profitably with other types of agriculture. (3) The wool-manufacturing industries, when considered as a whole, are still increasing in capacity. Their problem is to secure an adequate supply of raw material at a reasonable price. These three facts closely parallel three features of the economical development of the country. The frontier has now disappeared; the conditions and methods of work in the regions adapted to intensive agriculture are only beginning to be studiously bettered, and the population and industries are being concentrated in cities.

An adequate grasp of the real significance of these conditions emphasizes the importance of the opportunity developed by the European War. The problems relating to the growing and selling of raw wool have been given a new and, in many respects, a more urgent importance. If the American wool-manufacturing industries are to continue to meet the increasing demands being made upon them, one or more of three changes may be looked for in their raw material supply: (1) These industries will be obliged to depend more and more upon the decreasing supplies of foreign

wools; or (2) they must use an increasing quantity of other raw materials, such as hair, recovered wools, or cotton, linen, silk, or other fibers, or (3) a larger supply of American wools must be produced by the adoption of more careful and more efficient methods of wool-growing. This would inevitably be accompanied by an elimination of some of the shortcomings of the existing marketing methods.

The war has given impetus to the belief that the third of these alternatives is the one which is most desirable from a national economic standpoint. As long as these industries could fully, or in a large measure, supply to the American wool-manufacturing industries their raw materials the manufacturers were sufficiently interested in fostering American wool-growing to assume the annoyances resulting from a tariff protecting raw wools. They were willing to bear even the added financial burden which this protection involved as long as they were able to shift part of this burden to their consuming market. But when it became evident that the American wool-growing industries, even when protected, could not or would not keep pace with the increased demand for raw materials, their claim for protection was greatly weakened.

With the new emphasis placed by the war upon the arguments in favor of economic independence for the American wool industries, the wool-growers' situation is perfectly plain. An increased production is demanded of them, and no great increase can be looked for under the methods which hitherto have prevailed. Either the American growers will be obliged to produce wool with more attention to its marketable condition, and to other sheep products, or they will be compelled to cease trying to compete with countries which can do the work satisfactorily and more profitably, if any such countries exist. The desirability of the former alternative has been strengthened by the war. Indeed, in the light of the conditions which have developed in recent years in Australia, South America, and South Africa, it seems clear that the wool-growing industry of the whole world is undergoing reorganization. The better growing and the better market-

ing of wools in the United States thus become important parts of any plan to preserve this group of industries in this country.

Great credit would inure to the growers in the territory section and the farmers of the fleece-wool section if they had the resources for carrying out this work on their own initiative. Though the main burden of reorganization must necessarily fall on them, they have at their service now the Federal Department of Agriculture and the State Agricultural colleges which have already done valuable work in coöperating with the growers. The importance of the bearing of this movement upon the future of the American woollen and worsted industries can scarcely be overestimated.

Two separate lines of development may be looked for in "territory" wool-growing. A portion of the section in which this industry has flourished is adapted to sheep-ranging and is not well adapted to anything else. The introduction of irrigation, dry farming, and the purchase of water rights upon which these lands depend for value, will not entirely eliminate the availability of these areas for sheep-ranging. Nevertheless, in twenty years it seems probable that the sheep ranges will be reduced to a small fraction of their present extent, and that most of the territory flock-masters, as they exist to-day, will either be engaged in some other business or be raising crossbred sheep under either paddock or farm conditions.

The second line of development open to the "territory" wool area is the raising of mutton sheep. This form of sheep raising has already found a strong foothold in what has been hitherto a typically frontier section, and every year shows a distinct advance in methods of breeding and preparing wools for the market.

The changes in wool-growing methods in the "fleece" wool sections will apparently not be less important or radical than those undertaken in the "territory" section. It is declared that in most of the upper Mississippi Valley the right kind of sheep, grown under proper conditions, can be made to yield a profit. Even New England in all probability

could profitably engage in sheep-raising if it attacked the task seriously and intelligently and with the utilization of all its resources.

In brief, then, in order to adjust this group of industries to the new conditions arising out of the war, American wool-growers must produce the wools needed by the American woolen and worsted industries, and prepare them for market as well as they can be prepared anywhere in the world. That this program is not only possible, but should be profitable, has been indicated in the foregoing discussion.

The situation of the manufacturing industries is even more complex than that which faces the wool-growers. The market for the product of American woolen and worsted mills grows steadily, but the difficulties of manufacturing and distributing increase year by year. In short, the American woolen and worsted manufacturing industries are being obliged to do an increasing volume of business under conditions which make it constantly more difficult to prevent a decrease in the margin of profit. The supply of raw material for these industries is mixed, varied, uncertain, and expensive. The labor problems grow more acute and more difficult to deal with every year. In nearly every department the costs of operation show a distinct inclination to become larger. The pressure of actual or potential competition from foreign manufacturers, whose costs are demonstrably less, is always present. The problems of marketing cloth grow more complex and vexing every season.

The past ten years have seen remarkable changes in manufacturing methods. Mechanical efficiency of production in at least the staple lines has been greatly increased. The more progressive companies have bettered their internal organization and administration. It is in the buying and selling activities of the American woolen and worsted industries that there seems to be the most promising field for the expenditure of effort designed to enable these industries to meet the conditions which apparently will develop as a result of the war.

It is not the purpose of this discussion to indicate the

details of any program for bringing to pass the adjustment of these industries to the new conditions. There are two types of effort, however, which any program ought to include; namely, such concerted action as may be engaged in legally, and, second, certain types of individual effort.

Among the types of concerted effort which suggest themselves are four which seem to be worthy of mention: (1) American woolen and worsted manufacturers have accomplished a great deal of good for themselves and for the country at large, by attacking some of the most obvious evils which exist in present selling methods. The new conditions growing out of the war will make these efforts more valuable than ever and ought to encourage their expansion in the future. Repudiation of contracts which aggravates the unavoidable difficulties of cloth-selling can eventually be reduced to negligible importance among the cloth-manufacturers' problems.

(2) A number of the leaders in American cloth-production might find a valuable field for concerted work in a properly planned attempt to show the American public what advance has been made in this country in the production of really high-grade fabrics. If it is true, as has been said on excellent authority, that American fabrics are being made which sell in this country more readily as "imported" than as domestic products, it would seem to be a part of the responsibility of the American manufacturing industries to see to it that the American public knows the truth about these goods. There has never been a better time than the present to appeal to the patriotic spirit in matters of this kind.

(3) If several mills buried their individual differences and worked together, they could within a comparatively short time secure adequate governmental protection for designs. This would make it possible to avoid the evils of design piracy which now aggravate some of the most serious of the selling problems of the mills.

(4) The American cloth-manufacturer is now more or less at the mercy of changes in style and fashion. It probably

would not be possible, even if it were desirable, for the American mills by concerted action to abolish or, to any great extent, to reduce this costly element in cloth-production. The question arises, however, whether it might not be possible for manufacturers, working together, to introduce more business-like methods into the development of styles and fashions than are generally prevalent now. The concerted action possible in this case would include general appeals to the public in the way of education and training. Manufacturers could afford to encourage more intelligent buying of cloth, both in the piece and in the form of ready-to-wear clothing. The United States now offers a rich harvest to those Europeans who profit from the vagaries of style change. There is something sardonic about the amusement of the couturier as he contemplates the reaction of the American market to any style suggestion. Both the public and the manufacturers are paying dearly to support a condition in cloth-selling which is largely based on ignorance of cloth values.

The recent experiment of the Navy Department in establishing a board of strategy suggests the possibility of calling upon American artists and designers in various lines to establish a board of style strategy to study style motifs and then to introduce a greater degree of sanity into the setting and exploiting of styles and fashions.

Certain serious limitations stand in the way of concerted effort by associations in commercial matters. The four points mentioned, however, suggest certain lines of possible activity which exceed the limits of the power of concerns working individually.

The great part of the work of adjusting these American industries to new conditions, however, will fall upon the individual manufacturers. (1) In addition to any concerted effort that might be made in the direction of stabilizing style influence there seems to be possible a very substantial advance in the broadening of methods of designing fabrics. It is, of course, a very easy matter to say: Be original, and a most difficult matter to carry out the injunction. But the depend-

ence of American fabric designers upon suggestions drawn from Europe does not seem to be necessarily permanent or irremediable.

(2) Methods of competition are already being attacked through associations, but there is much to be done by individuals in drawing a sharp line between the necessary, desirable, and unavoidable elements of competition, and those which are needlessly expensive and demoralizing. It would be difficult to go into this field without citing individual cases. This would not be particularly illuminating to those outside the trade. It is a question whether any one not actually engaged in these industries could do it intelligently. It is, perhaps, inevitable that the introduction of large-scale operations, both in production and in trading, should involve the necessity for painstaking readjustments.

(3) Not all, but some of the mills can do much by the establishment of the identity of some of their products through brands or trade-marks to secure for themselves and their product the confidence of the trade and of the public. This opportunity, however, is confined not merely to a limited number of mills, but to a restricted portion of the products of such mills as might take advantage of it.

(4) There is large opportunity for individual manufacturers to study the possibilities of so adjusting their selling plans to the mill output that the joint manufacturing and selling profit will represent a maximum. This involves not only taking advantage of all advances in production methods, but also a consideration of style risk, style control, the new developments in the processes of distribution, and such other selling problems as modern conditions have brought to these industries. The results obtainable from scientific study of buying and selling promise to be at least as important as those which have followed scientific study of production. But valuable as are the results obtainable from the study of either of these two groups of problems by itself, the gain in efficiency, made possible by an accurate adjustment between the two, promises to be even more worth while.

ACTIVE AND IDLE MACHINERY.

SOME INCREASE OF UNEMPLOYMENT DISCLOSED ON JUNE 1—
FOREIGN MILITARY ORDERS FINISHED.

As was to be anticipated, because of nearness to the end of a season, the machinery in American woolen mills showed a somewhat larger proportion of idleness as a whole on June 1, 1916, than on March 1, 1916, on the basis of the returns of the quarterly census of the National Association of Wool Manufacturers. Only looms of 50-inch reed space or less, of which 7.7 per cent were reported idle on March 1 and 6.7 per cent on June 1, showed any increase whatever in activity.

The significant feature of this latest quarterly inquiry is the practically complete disappearance of foreign military orders. This business had been decreasing through the late winter and spring; it is now, to all intents and purposes, eliminated. But a new business is developing in the demand for military fabrics for the government of the United States, consequent upon the increase of the regular establishment and the mustering in of the National Guard for service along the border line of Mexico. The results of this latest quarterly inquiry, so far as they relate to the total amount of machinery idle and active on June 1, 1916, are as follows:

MACHINERY.	Total Number Reported.	In Operation.	Idle.
June 1, 1916.			
Looms, wider than 50 in. reed space	40,775	35,090	5,685
Looms, 50 in. reed space, or less	14,966	13,969	997
Looms, carpet	3,419	2,805	614
Woolen cards, sets	3,376	2,945	431
Worsted combs	1,954	1,759	195
Woolen spinning spindles	1,106,301	997,821	108,480
Worsted spinning spindles	1,699,359	1,513,995	185,364

In order to present a broad comparison there is published in this same summary the comparative per cent of idle machinery to total reported for each of the eight quarters from September 1, 1914, to June 1, 1916, inclusive. This summary shows clearly the improvement in the American wool manufacture which set in with the autumn of 1915. Up to that time the industry had shared very little in the quickening of domestic business through causes growing out of the great war. But from that period onward the domestic demand for wool fabrics has been satisfactory, and the cessation of foreign military orders, therefore, has scarcely been felt. But manufacturers everywhere are bearing in mind that this improved business is to a large extent of a temporary character, and that it can be put upon a permanent basis only by a careful readjustment of our economic system that may enable American industries in general to meet the shock of the change when the European war has ended. To this end the result of the national election of November next is being awaited with more eagerness nowhere than among the wool manufacturers of this country, their 200,000 workers in the mills and the vastly larger army of persons dependent upon them or engaged in the preparation of materials and supplies for the industry and in the distribution of the finished goods. The proportions of idle machinery to total machinery reported for the eight quarters mentioned are as follows:

MACHINERY.	Per Cent of Idle to Total Reported.							
	June 1, 1916.	Mar. 1, 1916.	Dec. 1, 1915.	Sept. 1, 1915.	June 1, 1915.	Mar. 1, 1915.	Dec. 1, 1914.	Sept. 1, 1914.
Looms, wider than 50 in. reed space . . .	13.9	12.1	16.8	26.7	30.4	32.7	27.7	26.
Looms, 50 in. reed space, or less . . .	6.7	7.7	20.2	31.2	25.9	32.	30.	17.3
Looms, carpet	17.6	17.1	19.6	24.	24.5	45.8	48.9	38.3
Woolen cards, sets . . .	12.7	7.3	8.8	15.5	17.7	22.7	30.	22.8
Worsted combs	10.	7.9	14.2	14.	30.	29.4	41.3	21.
Woolen spinning spindles	9.8	9.3	8.6	14.2	17.4	21.5	31.6	22.5
Worsted spinning spindles	11.	7.9	15.6	17.	39.6	33.	33.	16.9

Obituary.

JEREMIAH WILLIAMS. (*With portrait.*)

DEAN of the great Boston wool trade and one of the most conspicuous and honored merchants of Boston, Mr. Jeremiah Williams, who died at his summer home in Swampscott on June 23, will be keenly missed from many important fields of activity. For some months Mr. Williams had been in impaired health, but sorrow at his death is none the less because it had not been unanticipated.

From boyhood Jeremiah Williams had been actively engaged in wool selling in Boston. He was a native of this city, the son of Jeremiah and Elizabeth (Eames) Williams, whose boyhood home was in Jamaica Plain, and he was graduated from the high school there in 1866. He lost no time in entering upon a business life, and became connected in that same year with the wool firm of Bailey, Jenkins & Garrison. In this house Mr. Williams learned how to buy wool and to sell wool, and his very unusual personal qualities became immediately manifest. Added to a very rare business sagacity he possessed winning personal traits. He was alert, genial, and companionable, and he rapidly extended his acquaintance with men and with the difficult and important business with which he had become identified.

Twelve years after the Jamaica Plain boy had taken his first step in the Boston wool trade, he and Mr. Frank J. Coburn succeeded in 1878 to the business of Bailey, Jenkins & Garrison, having Messrs. Bailey and Jenkins as special partners. When in 1892 Messrs. Coburn and Bailey retired, Mr. Williams continued the business under the familiar title of Jeremiah Williams & Company. The firm has consisted of recent years of Mr. Williams, his brother, Mr. Joseph S. Williams, Mr. Gardner B. Williams, Mr. Charles M. Boyd, and Mr. Albert W. Elliott. Mr. Jeremiah Williams has been known wherever wool was grown or sold, and his firm has enjoyed a most enviable reputation for energy and uprightness.

When the Boston Wool Trade Association was formed in 1911, Mr. Williams by common consent was made the president.



Jeremiah William

Mr. Williams was for many years president of the North National Bank before it was absorbed by the National Shawmut Bank. He was a director in the National Shawmut Bank for many years until the time of his death. He was president also of the Beacon Manufacturing Company of New Bedford. His social affiliations were many and important. He was a member of the Union League Club of New York, the Algonquin Club of Boston, the Country Club of Brookline, the Tedesco Country Club of Swampscott, the Beacon Society, and the Boston Chamber of Commerce.

Rev. Paul Revere Frothingham, of the Arlington Street Church of Boston, officiated at the funeral of Mr. Williams, which was held Sunday, June 25, in Swampscott, and there was a large gathering of Boston merchants and friends to render honor to his memory. The Executive Committee of the National Association of Wool Manufacturers, at a meeting in New York on June 29, adopted the following resolutions of respect:

Resolved, by the Executive Committee of the National Association of Wool Manufacturers, That we record our sorrow at the death of Mr. Jeremiah Williams, for so many years honored in the Boston wool trade as a merchant of integrity and foresight, builder of a great business, powerful in influence in the industry with which his entire active life was identified, and a most genial and companionable gentleman.

Resolved, That this committee, on behalf of the Association, convey profound sympathy to the family of Mr. Williams and to his business associates.

Mr. Williams leaves a wife, two sons, Gardner B. and Malcolm Williams, and a daughter, Mrs. Henry F. Taylor (Mildred Williams) of Haverhill.

FRANK E. SIMPSON.

MR. FRANK E. SIMPSON, long known to the textile trade as president of the Roxbury Carpet Company and the Saxonville Mills, died in Boston on May 21. He was the son of Mr. Michael H. Simpson, an eminent textile manufacturer. He was graduated from Harvard with the class of 1879, and studied in the Harvard Law School during his first year out of college. Mr. Simpson then entered the mills and afterwards the office of his father, to whose responsibilities he succeeded on the death of his father in 1884. He continued in charge of the Roxbury Carpet Company and the Saxonville Mills until impaired health compelled a gradual withdrawal from business cares. In 1915 he resigned the

presidencies of the two companies and was succeeded by Mr. Francis T. Bowles.

Mr. Simpson was a member of the Union and Harvard Clubs of Boston, of the University Clubs of New York and Cincinnati, of the Brookline Country Club, the Framingham Country Club, the Eastern Yacht Club, and the Boston Athletic Association. He was for some years a director of the Bowker Fertilizer Company and of the Arlington Mills.

During recent years he devoted his activities almost entirely to his personal affairs. He was never married, and is survived only by a sister, Mrs. Helen S. Seely, the widow of Dr. W. Wallace Seely, late of Cincinnati, Ohio.

JAMES LISTER.

MR. JAMES LISTER of Providence, an active wool manufacturer, well known throughout New England, died Friday afternoon, June 23, at the age of sixty-five years. Mr. Lister came from that home of so many successful manufacturers, Bradford, in Yorkshire. He began his active business career in Philadelphia as a broker and wool buyer, but later came to the National and Providence Worsted Mills in Olneyville, Rhode Island, as a wool buyer for Mr. Charles Fletcher.

Mr. Lister in 1891 bought the Centredale Worsted Mills, and entered actively upon a manufacturing business of his own. For a time Mr. William A. Mackie was the president of the Centredale Worsted Mills and Mr. Lister was treasurer, but two years ago, upon the retirement of Mr. Mackie, Mr. Lister became president. He was also the treasurer of the Colored Worsted Mill.

Mr. Lister leaves a wife and six brothers, one of whom, Mr. Joseph B. Lister, is connected with the Olneyville branch of the Centredale Worsted Mills. Several of Mr. Lister's nephews are engaged in the wool manufacture. The family name is an honored one in the practical branches of the industry.

Editorial and Industrial Miscellany.

A CASE OF VERY SUDDEN CONVERSION.

TARIFF FOR REVENUE "ONLY" CONSPICUOUSLY MISSING FROM THE DEMOCRATIC PLATFORM THIS YEAR.

FOR the first time in many years the Democratic National platform — as adopted at St. Louis in June last — does not denounce a tariff for revenue and protection as "iniquitous" and "unconstitutional," and demand "a tariff for revenue only." This change is profoundly significant of a change of temper among the leaders of the Administration which owes its lease of power to the deplorable and costly division of the protectionist majority in the Presidential election of 1912. Mr. Wilson throughout his term has been a minority President. His popular vote fell far short of the combined vote of Taft and Roosevelt. The American people did not desire any fundamental change in their economic policy four years ago, and now that the authors of the Simmons-Underwood tariff are once more invoking a popular verdict they give abundant proof of a realization of that circumstance.

Free traders in this country and abroad are almost as blankly dismayed by the desertion of their shibboleth by the National Democracy as they are by its repudiation in the British Parliament. Whatever the St. Louis tariff plank may mean, its recognition that "tariff rates are necessarily subject to change to meet changing conditions in the world's production and trade," and its declaration for "a non-partisan tariff commission," which a Democratic Congress condemned and destroyed three years ago, point to a violent departure from the traditional attitude of Calhoun and Davis and Toombs, which in our time until now has dominated, if not the views, at least the formal action of Democratic National conventions.

It seems but a few short months ago that the Simmons-Underwood law was being acclaimed by its Southern authors as a real, simon-pure tariff for revenue only, with not a particle of intentional protection in it. But if that is the kind of a tariff that is right and satisfactory, what is the need of any "change"? Why

should there be this cryptic St. Louis reference to "impartial and thorough study of every economic fact that may throw light either upon our past or upon our future economic policy, with regard to the imposition of taxes on imports, or with regard to the changed and changing conditions under which our trade is carried on"? There may be some reasonable doubt as to the "impartial" and "thorough" character of any inquiry that might be undertaken by the gentlemen "prominently mentioned" for posts on the "non-partisan" tariff commission, if President Wilson is given the opportunity to make the appointments, but there can be no question whatever that the present Democratic tariff plank is the very weakest and most meaningless outgiving on the subject since the days of Andrew Jackson — who, by the way, like the sainted Jefferson, was a positive and even an extreme protectionist.

This tariff plank with its equivocating phases is nothing more nor less than a tub cast to the whale of the Northern Democracy by the Southern survivors of a past age and a departed generation, who still control the Democratic leadership in Washington. The Simmons-Underwood tariff for revenue only reduced to less than thirty the Democratic majority in the House of Representatives, and would have effaced it altogether but for some local lingering of the protectionist schism of 1912. A protectionist majority in the next House is inevitable unless the tariff issue can be buried or suspended over the election of 1916. Northern Democrats in close and doubtful districts are slated for overwhelming defeat if their party stands pledged to a continuance unaltered of the disastrous fiscal measure of 1913.

Political opportunism is responsible for a tariff declaration that really means nothing, but can be made to mean almost anything by adroit politicians and organic newspapers. The great, unmistakable, salient fact is that President Wilson and his lieutenants are mortally afraid of the tariff issue this year — more afraid of it than of anything else, even of "preparedness" or of Mexico. The great European war itself has given a tremendous impetus to protectionist sentiment — which is in other words the sentiment of national self-reliance — all over the civilized world. Protection is no longer debated or debatable in the United Kingdom. Even the Manchester Chamber of Commerce, with the vivid lessons of the war before it, has formally rejected free trade and approved the levying of protectionist laws now and

after the war has ended. The dyestuff crisis has shed its illumination even to far-away Japan. "Cheapness" is a god no longer to be worshipped. Undoubtedly, the Krupps would have been glad of the opportunity years ago to supply Britain and France with rifles and artillery at prices with which Armstrong and Vickers and Creusot could never compete.

But what would have been the consequences? And what actually are the present consequences of depending too much upon Australasia, India, and South Africa for wool? The idea that the sum total of economic wisdom is to allow everything to be produced where it can be produced at the lowest price and to take no thought for to-morrow has been very effectively shot to pieces by the great guns that since that memorable August 1 of 1914 have been roaring by sea and land. Free trade, promptly cast overboard by the British government, has been less frankly, but not less completely jettisoned by the National Democracy of the United States.

Yet, this sudden shift will not avail. The American people by a very great majority—a majority undoubtedly greater than for many years—are sincere protectionists. They believe that their economic laws should be so shaped as in their effect to prefer Americans rather than foreigners. The St. Louis recantation comes too late. Industrial America wants to make sure of an adequate protective tariff before this war ends, and it wants such a tariff at the hands of men whose belief in the protective principle is somewhat older than the day before yesterday.

MANUFACTURERS' PURCHASES OF WOOL IN 1915.

SINCE the April issue of the *Bulletin*, the United States Department of Agriculture has published an interesting statement concerning the purchase and consumption of wool by the principal manufactoryes in this country.

From this report the following table is produced:

Wool on hand January 1, 1915.....	126,324,000 pounds.
Wool purchased during the year.....	498,580,000 "
<hr/>	<hr/>
Total available	624,904,000 "
On hand January 1, 1916.....	146,318,000 "
<hr/>	<hr/>
Quantity consumed (?).....	478,586,000 "

The report estimates that the mills reporting represented over 85 per cent of the consumption; if this is a correct estimate and the remaining 15 per cent consumed wool in the same proportion, the quantity used during the year would have equaled about 563,000,000 pounds. Our employment figures, shown on page 226 of this Bulletin, indicate that on the whole the mills were very fairly well employed during the year; yet it is hardly possible that the consumption could have been so great as the quantity indicated by this estimate. The supply of all kinds of wools, imports and production, available for the fiscal year 1915 was 591,000,000 pounds, or only 28,000,000 pounds more than the mills consume if the above estimate is correct. It is probable that the mills unaccounted for in the Department's figures were very small or idle establishments, and that the 498,580,000 pounds reported as purchased is very close to the actual consumption during the year.

The figures given by the Department indicate the consumption in the mills reporting to have been distributed as follows:

New England States	277,940,000	pounds.
New York, New Jersey, and Pennsylvania ...	167,516,000	"
All other.....	33,130,000	"
Total.....	478,586,000	"

This statement shows the continued superiority of New England in the wool manufacture, nearly one-half of the wool consumed in manufacturing being used within her borders. The three great manufacturing States, New York, New Jersey, and Pennsylvania, come next with nearly one-third of the entire consumption, thus leaving less than 8 per cent for all the rest of the country.

The valuable report of the Department, dated April 29, 1916, which it is hoped will be continued from year to year, follows:

WOOL BOUGHT AND HELD BY MANUFACTURERS.

Wool manufacturers, whose total purchases of wool in 1915 amounted to 498,580,000 pounds equivalent raw wool, had on hand 146,318,000 pounds on January 1, 1916, compared with 126,324,000 pounds held one year preceding.

These figures are based upon reports of wool manufacturers to the Department of Agriculture, compiled in the Bureau of Crop Estimates.

It is estimated that the mills reporting represent over 85 per cent of the entire consumption, sufficient to be indicative of the relative amount of wool held. The figures indicate that stocks on January 1 were 15.8 per cent larger than a year preceding, and equaled 29.3 per cent of the year's purchases.

In the New England States mills reporting purchased 286,149,000 pounds in 1915 and held 87,865,000 pounds on January 1, compared with 79,656,000 pounds a year preceding, indicating that stocks were 10.3 per cent larger and equaled 30.7 per cent of the year's purchases.

In New York, New Jersey, and Pennsylvania the manufacturers reporting purchased 178,943,000 pounds in 1915 and held 45,702,000 pounds, compared with 34,275,000 on January 1, 1915, indicating that stocks on January 1 were 33.3 per cent more than a year ago and equal to 25.5 per cent of the year's purchases.

In all other States the manufacturers reporting purchased 33,488,000 pounds in 1915 and held 12,751,000 pounds on January 1, 1916, compared with 12,393,000 one year preceding, indicating that stocks on January 1 were only 2.9 per cent more than a year preceding, but equal to 38.1 per cent of the year's purchases.

Mills whose total purchases in 1915 amounted to 411,505,000 pounds reported domestic and foreign wool separately. For these, 41 per cent of the year's purchases were domestic and 59 per cent were foreign; stocks held on January 1, 1916, were 41 per cent domestic and 59 per cent foreign, whereas a year preceding 49 per cent of the stocks were domestic and 51 foreign.

AMERICAN AFTER THE WAR PROSPECTS.

A VAST ALLIED TRADE LEAGUE, WITH WHICH AMERICAN INDUSTRY MUST RECKON.

IT is well that the defensive and offensive commercial agreement of the Allied Powers, recently adopted by an international conference at Paris, should have received solemn consideration in the Senate of the United States. This is a most portentous instrument. France, Great Britain, Russia, Japan, Italy, Belgium, Portugal and Serbia are the signers, and the agreement applies not only to the period of the war, but to an indefinite period afterward.

There are two distinct objects which the Allied Powers pledge themselves to attain. One is the continued crippling and repression of Germany, Austria, Bulgaria, and Turkey in trade and

industry. The other is "the securing," as the agreement frankly states, "of the whole of the market of neutral countries"—of which, of course, the United States is chief. To this end the Allied governments bind themselves to form a commercial league against all other nations, "to conserve for the Allied countries before all others their natural resources during the whole period of the commercial, industrial, agricultural, and maritime reconstruction, and for this purpose they undertake to establish special arrangements to facilitate the interchange of those resources."

This proclamation means, to speak definitely, that if France or Russia required a supply of Australian wool or Egyptian cotton these Allied countries should be allowed to receive it in preference over the United States, which will come in like the poor relative at the second table. There are a great many indispensable materials of industry whose chief source is some part of the far-flung British Empire. The war has emphasized the cost of our own dependence on these materials—and the Paris agreement plainly means that the perplexities which have been met in obtaining many of these materials in the past two years will to some degree remain when the war has ended.

Without any mincing of words, the Paris agreement declares the purpose of the Allied Powers to isolate Germany and her friends as completely as possible when nominal peace is reestablished. This is to be accomplished by prohibiting or heavily burdening their export of merchandise to the Allied nations, and by discouraging with every possible device such export of Teuton goods to neutral markets, of which the Allied Powers openly boast that they are going to have a monopoly. The commercial blockade of the Central Powers, which is to follow the naval and military blockade, is thus described:

In order to defend their commerce and industry and their agriculture and navigation against economic aggression resulting from dumping or any other mode of unfair competition, the Allies decide to fix by agreement a period of time during which the commerce with the enemy Powers will be submitted to special treatment, and goods originating in their countries will be subjected either to prohibition or to a special régime of an effective character. The Allies will determine by agreement through diplomatic channels the special conditions to be imposed during the above-mentioned period on the ships of enemy Powers.

Thus, even after the war, the powerful German merchant marine, which was pressing British shipping so hard when the war began, will presumably be refused the ordinary "freedom of the seas" when the war has ended. Great Britain, casting away her professions of free trade, goes along with the other Allied governments, of which she is, indeed, the leader and inspirer. But what is of the most vital concern to the American people is that a tremendously potent league of nations is preparing to divide up among itself the commerce of all neutral lands. No effort will be made to invade Germany, Austria and Turkey—such an attempt would, of course, be met by instant and effective reprisals. The Allies will be shut out of the markets of their enemies, but they will endeavor to make good their loss by enormously increased shipments of merchandise to the markets of the countries which have joined neither one side nor the other. This forecasts a double-edge competition in South America and other foreign lands where American goods have been gaining a foothold—and inevitably a fiercer battle for the United States itself, the greatest and richest open market which German and Austrian manufactured goods can enter.

Here looms up as formidable a problem as ever confronted American statesmanship. The commercial warfare of the Allied and the Central Powers will be unrelenting, and a large part of it will be fought out upon the American Continent. If there was no other reason, this of itself would be sufficient to demand the entrusting of the control of our National government to the wisest heads and the strongest and bravest hands in the public life of the United States.

DYES AND THE MANUFACTURER.

ATTITUDE OF THE TEXTILE MILLS TOWARD AMERICAN AND EUROPEAN COLORS.

(By FREDERIC DANNERTH, Head of the Textile Trade Laboratory, Newark, New Jersey, Chairman of the Committee on Textile Industry and Coal Tar Products, Connecticut Section, American Chemical Society.)

So much has been said during the past two years regarding the attitude of American textile manufacturers toward American-made dyes that it seems necessary to correct some current impressions.

One of the principal if not the most important reason for using German-made dyes in the United States was the fact that nearly all the sun-fast and laundry-proof dyes available were made and are still made in Germany. The dyes used for printing colored stripes on men's cotton shirtings are the well-known vat dyes which occur in commerce under the distinctive trade names of Helindone, Algole, Indanthrene, and Cibanone. Then, too, there are a large number of acid dyes which are characterized by unusual fastness to light when applied to wool and silk fibers. These acid dyes if applied to silk can be exposed to direct sunlight for a period of forty days in a latitude of 41 degrees north, during July and August, without showing any appreciable fading. For the benefit of such research chemists as may be interested in developing dyes of this character, I have appended a list of dyes which are sun-fast on animal fibers, the prefixed numbers referring to the 1914 edition of Schultz' "Farbentabellen." Such a list might well serve as a basis for advanced dye investigations in our organic chemical laboratories: (865) Alizarin cyanin green G X; (864) Anthrachinon green G X N; (863) Anthrachinon blue green B XO; (862) Alizarin blue black B; (861) Anthrachinon blue S R extra; (860) Cyananthrol G; (859) Cyananthrol R; (858) Alizarin Saphirol B; (852) Alizarin Irisol D; (853) Anthrachinon violet B; (851) Alizarin direct blue B; (850) Indanthrene blue W B; (639) Gallanil violet R B; (303) Brilliant yellow; (249) Crocein scarlet 3 B.

These and a score of others, including such well-known dyes as Cloth red and Naphtol green, are dyes which are to-day of importance to the textile manufacturers of the United States. Other dyes which are quite in a class by themselves in the matter of brilliancy are Patent blue of the Farbwerke Hoechst and Rhodamine of the Farbenfabriken, Elberfeld. All the dyes mentioned have been tested out in this laboratory and have been found to possess the properties mentioned.

In view of the extensive discussion of tariff protection for our American dye industry it seems that attention should be called to one of the important factors which has heretofore received no consideration in discussions of this measure. The industry of coal tar dyes is based on the science of organic chemistry, and this is a branch of chemical research which is at present being taught to only a limited extent in our American

colleges. This statement is based on an inspection of the catalogues of five leading universities located in the Atlantic States, and is supported by a personal contact with graduates of these institutions. It therefore seems timely to call attention to this deficiency in our educational system, and if possible to provide ways and means for altering these conditions. The points which require emphasis are :

(1) The supremacy of the German dye manufacturing industry at the present day is probably due primarily to the advanced instruction in *organic* chemistry which is offered to students in German universities and technical colleges.

(2) The manufacture of modern sun-fast and laundry-proof dyes in the United States cannot begin until there are in the country a sufficient number of men with an adequate education in the methods of organic chemical research.

(3) Until this instruction is given in our American colleges, the extension of our dye factories and the invention of new and useful dyes must of necessity be very limited. Even if our college courses are revised to-day, it will be three, or possibly four, years before adequately trained men are available. The past twenty-five years of activity in our American dye factories bear abundant witness to the fact that our dye manufacturers are not inclined to spend time or money in the development of products unless they yield immediate dividends. But fastness is the particular point which European chemists have emphasized in all their dye developments, and any rational program of tariff protection must take this point into consideration. The mere investment of capital will not insure for us an American dye industry.

(4) The numberless complaints which have already been made with regard to the fastness of American-made dyes demonstrate conclusively the present state of the industry in the United States, after an unhampered development of forty-six years.

(5) An investigation will show that chemical laboratories in European universities, in the majority of cases, have their doors open from seven in the morning until six in the evening. Would that our American universities could say as much.

The textile manufacturers of the United States have been variously accused by some of our less conservative collegiate professors of favoring German dyes to the exclusion of American-

made dyes. The answer to this accusation has already been given. All the American dyer asks is, that he be supplied with modern dyes which shall equal in brilliancy and fastness the products which are now made by foreign manufacturers. It is also fair to assume that this will not be possible until students are given the necessary basic instruction in our colleges.

DR. HESSE ON THE DYESTUFF ART.

THE PRESIDENT OF THE AMERICAN CHEMICAL SOCIETY AS HISTORIAN AND PROPHET.

A VERY breezy and interesting discussion of the dyestuff question pro and con was presented at the meeting of the Dress Fabrics Buyers' Association, New York City, by Dr. Bernard C. Hesse, president of the American Chemical Society. In opening his address, Dr. Hesse gave an encouraging view of the natural capacity of the United States, and then touched on the history of the German coal tar dye industry, as follows:

For the past twenty years or thereabouts the United States has had within its borders a supply of coal tar materials of suitable quality and in sufficient amount to produce all of its own requirements of coal tar dyes if it so chose to use them; for the same period of time it has had domestic access to substantially all the needful other or auxiliary chemicals except sodium nitrate, in which respect it was dependent upon Chile, and in that regard it was in the same position as practically every other nation; to-day we are in most favorable position in this respect. So far as men, experience, and equipment are concerned we are now in better condition than ever before.

In the early days of the coal tar dye industry, Belgium, France, and Great Britain had the largest domestic supplies of coal tar and other materials, whereas Germany was not so situated, but was dependent upon these three countries for the major portion of these materials. The coal tar dye industry was started in England and France fully four years before it was started in Germany; within the first 14 years of its life, *i.e.*, by 1874, the German coal tar dye industry made 90 per cent of the coal tar dyes then consumed in the world.

From the comparatively small number of dyes which constituted the coal tar dye industry of 1874, say 50 different dyes, this industry has now grown to more than 900 different dyes involving more than 300 other chemical products, themselves not dyes, but needful in the making of the dyes proper. The activi-

ties that led to the development of the dye industry brought with them phenomenal developments in synthetic, medicinal, and pharmaceutical products, synthetic perfumes, photographic chemicals, explosives, disinfectants, and means of scientific study and investigation which were not foreseeable a half century ago. Collateral thereto, but none the less important, the technique, information, and point of view so evolved has had a mighty and stimulating effect upon many other branches of chemical industrial endeavor, all outside coal tar chemistry. Few, if any, chemical activities have been so catholic in their fields of endeavor and so all-pervading in their effects.

Fifty years ago the commercial future of the coal tar dye industry seemed limited; its possibilities, direct and indirect, did not appeal with any great force to any but the Germans; the industry as it stands to-day is a monument to constructive imagination, a willingness to make and market small amounts, dogged persistence, and the very perfection of salesmanship and operating organization. With but one exception, alizarin, the whole industry must then have seemed as though it would never outgrow the "pot-and-kettle" stage, that is, manufacture in small units—a "toy" industry, in other words.

In 1913 Germany had 22 going concerns making coal tar dyes; these are the survivors among 39 concerns, of which 11 were abandoned and 6 were absorbed.

The latest figures available for Germany's export business in normal times are those for 1913; in that year Germany exported 120,000 short tons of dyes having a declared export value of \$51,640,000, or \$430 per ton, or 21.5 cents per pound; in the same year Germany exported "intermediates" to the extent of 22,000 short tons of a declared export value of \$4,310,000, or \$196 per short ton, or 9.8 cents per pound.

In the mass, these are stupendous figures, totaling 142,000 short tons and \$55,950,000, or an average value of \$394 per ton, or 19.5 cents per pound. On closer inspection it will be found that for the more than 1,200 things that have to be made, this means an average of not more than 118 tons per year, or \$46,625 per year per product for the entire world outside of Germany; at 300 days per year this means on the average not more than 790 pounds, or \$15.5 per day per product for the entire world outside of Germany.

The dividends declared and distributed in 1912 by 21 of the German coal tar dye manufacturers amounted to \$11,600,000. The 1913 dividends were about the same as those for 1912. Of the 22 plants of 1913, 1 declared no dividend and 4 sustained a loss amounting to about 8 per cent of their capitalization; per product these 1912 distributed dividends amount to not more than \$9,700, and these dividends included whatever of profits these concerns made as distributors and makers of their wares, including heavy chemicals, dyes, intermediates, photographic

chemicals, synthetic medicinals and pharmaceuticals, explosives and the like, all inclusive of Germany's own consumption of all these articles. If the German consumption can be taken at twice the United States importation in 1913 this makes Germany's total production in 1913 about \$78,000,000; \$11,600,000 in dividends means not more than \$1 in dividends on each \$6.72 of turnover, or not more than 15 per cent on the turnover.

If proper allowance be made for the large individual articles of consumption the average annual value, output, and profit for the remaining things becomes very much less than above given and perhaps only 60 per cent of the above average figures, say to 475 pounds, or \$90 per day gross per product, for all the world outside of Germany.

At \$15,000,000 for the manufacturers' value of all coal tar dyes consumed in the United States in normal times (and this is a very liberal figure) this means 15 cents per year for each of the 100,000,000 inhabitants of this country; for each person in this country to average a consumption of 1 cent for each of the present-day 1,200 dyes and things needful in making these dyes, *i.e.*, \$12 would take 80 years.

In a sense the dyestuff industry is and will continue to be a relatively small one, as Dr. Hesse has shown.

From the point of view of average individual annual tonnages, gross receipts, distributed dividends, or individual personal consumption, there is firm ground for the opinion that even to-day the coal tar dye industry, big as it is in the mass, is still, in great measure, a "pot-and-kettle" affair, a "toy" industry, or a "department-store" aggregation of many small units, and that, in reality and in total mercantile effect, it in itself is just about a "one-nation" business.

In 1913 there were probably not over 40,000 people all told engaged in the whole world in the manufacture of coal tar dyes and of the chemicals needed therefor, apart from making and distilling coal tar. The entire indigo consumption of the world, which is the largest single item in the whole business, probably can be produced with probably not more than 1,500 men all told. Taking our own total consumption of coal tar dyes of all kinds, as one-seventh of the world's total, 6,000 people could reasonably be expected to be the maximum number needed for its production. In 1914 our railroads hauled 1,000,000,000 tons of freight; our dye consumption is about 30,000 tons per year; to make these here would probably not add 60,000 tons to the country's freight haulage, or .006 per cent; if we made all and the whole of our own dyes, that would diminish our total national merchandise import business by about .5 per cent; assuming the dividends to be apportioned as above, this would mean about \$1,660,000 of added dividends.

So, from the point of view of added labor, freight haulage, diminution of our foreign business, and added dividends, if we made all our own dyes within the country the project does not seem to be a strikingly alluring one from a national outlook.

Among all the branches of the chemical industry of Germany the coal tar dye industry is the greatest of dividend-payers, paying 10 points more in dividends than any other branch; it sells its products in 33 countries outside of Germany, and therefore has its eggs distributed among many different baskets.

In any plans we may make for bringing about our independence of any foreign country for coal tar dyes, medicinals, and other useful like products, we must take all the foregoing facts and deductions into account and provide for them and their consequences, so far as we can reasonably foresee them.

In answering the question, "Why should we be independent?" Dr. Hesse said :

In the tariff revision of 1883 dependence upon other countries was avowedly, eagerly, and deliberately advocated and accepted, among other reasons given being that we could never build up the coal tar dye industry here and that the import duty raised the price of red flannel shirts 25 cents per dozen and the price of an average-sized rag carpet 3 or 4 cents; in 1908 seventeen New England cotton establishments protested, collectively, against any tariff increase because that would increase the cost of manufacturing colored cotton goods in the United States and the price to the consumer in the United States, and in the case of export trade an advance in the cost of any of their raw materials adds to their burdens and minimizes their opportunity to compete with foreign cotton manufacturers in foreign markets. In the 1913 tariff revision Southern cotton mills took substantially the same position. In the record of the hearings on the Hill bill held January 14 and 15, 1916, seven of the seventeen signers of 1908 reversed themselves either in writing or orally; those who have so reversed themselves represent about one-third of the total labor, power, and textile machinery capacity of the seventeen, and probably the same proportion of the total capital; since then others may have reversed themselves, but if so, that fact has escaped me. So that from 1882 to 1913 coal tar dyes were regarded as raw materials, and as such they should be free or taxed but little; whatever import duty was assessed during that period of time did not in any way encourage or foster an American coal tar dye industry and did not interfere with our avowed purpose to be dependent upon others in this regard; all this in the face of continued, repeated, and elaborate protests against such a course by those engaged in making dyes in this country. The probable effect of a European war upon our industries using

foreign-made dyes was discussed and dismissed in July, 1882, as follows: "These goods are made not only in England, but in Germany, and if the worst came to the worst, and we were cut off from our European supplies, we could fall back on the vegetable dyes that came from South and Central America before aniline dyes were invented."

The 1883 tariff cut closed many of the then existing nine American coal tar dye plants; to some of the individuals it meant ruin. If, as a result of the present-day cry for reëstablishment of this industry a new tariff is enacted and men for that reason engage in this venture, the nation must keep faith and its implied covenant, and not leave these men in the lurch; we must never backslide merely because we then find the actual cost higher than in our present state of mind we believe it will be or think we are prepared to pay. Let us be absolutely clear in our own minds and sure of ourselves. If we decide to go forward — never let us turn back.

Ever since 1883 a specific tax has not been assessed; but an ad valorem duty ranging from 25 per cent to 35 per cent, now 30 per cent, and that on a part only, not on all dyes made from coal tar. As a matter of fact we have not had a real domestic coal tar dye industry — merely an assembling industry; that is about all the tariff can be said to have effected. In the year 1913 Germany sent us in round numbers \$7,300,000 of so-called aniline dyes dutiable at 30 per cent, \$2,800,000 of alizarin and anthracene dyes and indigo — not dutiable, and \$1,086,300 of intermediates dutiable at 10 per cent; these are the rates of the present Underwood tariff, effective October 3, 1913. Taking these figures and rates as a basis the total revenue thus assessable and collectible would amount to \$2,298,632; under the Hill bill provisions this would have been \$6,908,648, and under the Kitchin bill provisions this would amount to \$4,999,084; the increases over the Underwood tariff being for the Hill bill \$4,610,016 and for the Kitchin bill \$2,700,452; that is, where the Hill bill contemplates adding \$1, the Kitchin bill contemplates adding 59 cents. In other words, where Underwood adds \$1 to the export value, the Hill bill adds \$3 and the Kitchin bill \$2.18, assuming for the purpose of this comparison that the duty imposed will appear entirely as added cost to the consumer, which may or may not be the case.

We know that the Underwood dollar did not create a dye industry; we are led to believe by informed persons acting upon honor and entirely disinterestedly that the Hill bill's \$3 will probably create a complete, self-contained, and self-sustained industry in this country which will make not only coal tar dyes and explosives, but also all the many other things obtainable from coal tar and other like materials, and that anything less than that is not likely to lead to any substantial industry; with this view the most experienced domestic coal tar dye makers

agree. The Kitchin bill proceeds from the admission and premise that the Underwood and all like dollars created no industry, to the conclusion that \$2.18 will create a complete, self-contained, and self-sustaining industry in this country. We know that the Underwood dollar and all similar preceding dollars might just as well have been thrown into the sea for all the real domestic industry they created ; the Kitchin bill's \$2.18 may merely be throwing good money after bad ; we are told that the Hill bill's \$3 may be the same, but not probably. That is the dollars-and-cents view of the proposed legislation at Washington.

Again, we are similarly told that protection in order to protect this industry must protect it all the way round ; the Hill bill does that ; the Kitchin bill does not. If you were building a high board fence round your vegetable garden to keep your neighbors' chickens out would you build three-quarters of the fence so that it went well into the ground, and leave the other quarter three feet from the ground, on the theory that the chickens would not find this weak spot in your fence ? In exempting anthracene, alizarin, and indigo dyes and indigo from the surtax, that is precisely the theory on which the Kitchin bill proceeds, and it offers, at the suspended portion of the fence, an added bait for the chickens, by threatening to remove the surtax unless 60 per cent of the value of our total consumption is produced in this country within five years. That is about the same as if, in addition to building the fence as just described, you industriously sprinkle a lot of "chicken feed" so that it leads directly to this hole in the fence. That is the strategy in the Kitchin bill.

As to the popular support behind the pending dyestuff measures, Dr. Hesse declared :

The Kitchin bill and the Hill bill each proceeds from the fundamental proposition that unless we protect the coal tar dye and chemical industry in this country we are not going to have any such industry. That proposition may therefore be accepted as being true, conclusively established, and the permanent consensus of public opinion, since it is endorsed by both the Democratic and Republican parties, freetrader and protectionist alike. The only reasonable conclusion from this is that both political parties and the public each and all stand affirmatively committed to the national need of a coal tar chemical industry in this country that shall be permanent, complete, self-sustaining, independent, and fully capable of self-development ; anything less than that would be a mere makeshift and a Dead Sea apple.

In the case of a given typical example of a cheap and widely used coal tar dye the Hill bill contemplates a net added protection ranging from 3.44 cents to 2.95 cents per pound ; the Kitchin bill contemplates a net added protection ranging from 2.08 cents

to 1.59 cents per pound; the American dye makers in 1908 wanted a net added protection of 3 cents per pound for that general class of dyes. The Hill bill gives the dye maker what he says he needs; the Kitchin bill does not. If we really want an American coal tar dye industry and all it brings and may bring with it, why should we thus haggle? The reason seems to be that we fear that the Hill bill rates will create a set of "tariff robbers," and the assumption is that the Kitchin bill will not; once we have a domestic dye industry we ought to be able to handle the "tariff robber" question on its merits, or are we so to confess that the only way we can check "tariff robbers" is not to have an industry?

Further, the Kitchin bill thinks that this protection might cost as much as \$2,700,000 per year; the Hill bill thinks this cost to be \$4,610,000 per year — either one a tidy sum, even for this nation, and one which we should not light-heartedly incur.

Now, why should we have it? Surely not to add 6,000 people to our laboring population; this would be \$450 per year per person under the Kitchin bill and \$768 under the Hill bill; surely not for 60,000 tons additional freight haulage, for this would be per ton of freight \$45 under the Kitchin bill and \$77 under the Hill bill; nor would it be good business to pay either sum so that certain stockholders could get \$1,660,000 per year in dividends. It cannot be a dollars-and-cents reason in this direction.

The Hill bill and the Kitchin bill were both introduced into Congress because of the insistence of the dye-using interests that something be done to relieve the dye shortage and not at the request of dye makers. These same interests for thirty years had kept down the duty on dyes and were almost solely responsible for the disastrous tariff cut of 1883; the dye-using interests, therefore, have almost complete control of the dye tariff policy of this country, and the dye and chemical-making interests have no such control — not even a reasonable hearing. Under these circumstances it is reasonably clear that the dye-using interests can have any duty that may now be added removed at their pleasure. It is not sound, national policy to attempt to build up an industry in this country by protective legislation when the profits in that industry for some time will be dependent upon such protection and then have the power of altering that protective policy lodged exclusively in the hands of the customers of that industry, to be exercised at their pleasure and in their interests only. When the situation is relieved why should they not have the duty removed? If they decided on that course the dye and chemical makers might be just as helpless to prevent it as they were in 1882, and continued to be down to 1913, and are, in fact, to-day.

These — the economic — reasons, Dr. Hesse said, "touch relatively few of us," but "the question of having at all times equipment in this country and men capable to operate it to produce means of national defense, *i.e.*, high explosives, is one which promises to affect all of us. Now, what could a complete, self-contained and self-sustained domestic dye industry making our total requirements of dyes, so contribute? The most we could reasonably expect from it is that in a comparatively short time, say, a month or less, it could turn out 100 tons of high explosives per day and could train enough chemists, superintendents, foremen, and workmen fast enough properly to operate additional high explosive-making plants as erected. In the past 18 or 20 months we have learned, with every possible stimulus, to build from the ground up plants capable of making about 80 tons of picric acid per day; how much T.N.T. is made daily is not known to me with any certainty. From that point of view this contribution seems reasonably worth while; if we make 60 per cent of our requirements we very likely would make 60 tons in place of the 100 tons of high explosives per day."

The massed coast artillery of our Atlantic and Pacific seabards has to-day such a capacity of firing projectiles that if 5 per cent of the weight of those projectiles were high explosive, 100 tons high explosive, or one assumed day's output, would last seven minutes; on the same basis, the high-explosive producing-capacity of the German coal tar dye industry, as it existed just before the war, would last 50 minutes, or perhaps an hour.

Is it worth our while to have such a dormant capacity in this country? In a month we could then reasonably expect to be where otherwise we might not be much under a year. I think so.

If the final answer to that question be an unequivocal "Yes," and our army and navy officials are the only persons to answer that question in a way that would surely have the confidence of the public, then we have a reason for this special protective legislation that would be far more stable and far less subject to change than any other reason yet given; such legislation would not be repealed nor altered for trade reasons alone; it would not be repealed until the coal tar dye industry were really firmly established and we really did have this dormant capacity firmly under our own control. Surely we cannot be so impotent as a people that we cannot devise ways and means successfully to resist "tariff robbers," and prevent their exploiting us under this kind of a cloak!

Reasonable protection, energy, and foresight, Dr. Hesse contended, would have given us a dyestuff industry long ago.

Had we had a going dye industry in this country at the end of the 90's or early this century there is every reason to believe that we too would have been successful makers of the so-called vat-dyes that make the wonderfully fast modern shades and would have had a substantial share in the making of all the other dyes and their intermediates and progenies.

The longer we delay getting this industry the more difficult the task will become. Shall we continue to sit by, let others do the work and reap the benefit and continue to be dependent upon others for all these things which are bound to become more numerous and more ramified than ever? There is no question that we can, if we will, make just as good qualities as any one; we cannot do it unless we have the opportunity to acquire the experience; shall we continue to be denied the opportunity or does the nation want these things and actually want them earnestly enough to face the situation and pay the price without quibble and without haggle?

Great as has been our domestic progress in the past two years we cannot hope to keep it all without substantial economic help; to think that we will lose it all even without added help has no foundation in reason. Without help, and real help at that, we will continue to have, in normal times, an industry which is far from complete and self-sustaining and self-developing, and bound to be a disappointment in time of stress and trial.

Now, which shall it be? The Hill bill with reasonable certainty of success, or the Kitchin bill with far less reasonable chance for success? The difference between the two may very well be the difference between substantial success and substantial failure. The differences in cost of finished fabric cannot be great—in most cases far from being large enough to pass along; in those few cases where the added cost turns out to be greater than can be borne they can be taken care of otherwise, and if necessary by needful tariff help. Certainly the difference in cost of finished fabric between the Hill bill and the Kitchin bill can hardly ever be large enough to pass along.

My own view is this: If the country is really honest and sincere in its loud and prolonged clamor for independence in this regard, now is the time to prove it by deeds. Plain, ordinary square-dealing and horse sense clearly and imperatively demand the prompt enactment of the Hill bill rates, under which it will be none too easy sledding. The Hill bill rates are those that domestic dye makers say are absolutely necessary to achieve this independence; the dye users from 1882 to 1913 have deliberately and successfully played right into the hands of foreign dye makers and against domestic dye makers, and there is every reason to believe that they have not yet entirely overcome that

habit. The Kitchin bill is the Hill bill pared down, cut down, and hamstrung solely in the interest of dye users; such quibbling, haggling, and cheese-paring do not square with common sense nor sincerity, nor with fair dealing toward the dye makers, who will have to carry the load. Even if, in years to come, the Hill bill should allow the existence of "tariff robbers," we can cross that bridge when we get to it. The first thing to do is to get this industry; we can then take care of "tariff robbers," if and when there are any, if we want to.

If we choose the Kitchin bill and success should not attend it, we will have lost just so much time and effort and will merely have shown again and for the sixth time that the dye-using interests cannot successfully prescribe tariff rates for the dye makers. If we choose the Hill bill we will be giving the dye makers their first real chance at tariff shaping, and also that which they say will enable them to create the complete and independent industry in all its substantial ramifications. If they then fail to create this industry it will be because the very best conclusion they could draw from the past failed to meet the then situation, and we will be better able to make the next step for success.

There is no less chance of encouraging rapacity on the part of the dye makers under the Kitchin bill, should success attend it, than under the Hill bill. In summary, then, the coal tar dye industry of the present has grown from obscure beginnings of little real world-wide promise to an industry that is of very wide ramifications in almost every phase of national and international commerce and industry; experience in the past has shown that in order to get a foothold and develop in this country it must be aided substantially; we have had only an assembling industry; at present we have made great progress, much of which will remain with us no matter if the present tariff be changed or not, but it will be in essence an assembling industry still. The future of the coal tar, chemical, and allied industries is brighter and fuller of promise than ever; its future in this country lies in our own hands, to make or to mar. Which will we do?

THE NEW BRITISH METHOD.

SELLING PLANS OF THE WOOLEN MILLS THAT BECOME EFFECTIVE AUGUST 1.

BRITISH conservatism proved too tenacious to accept all of the changes that were proposed, as noted by the April Bulletin, in the selling terms of British wool manufacturers. The amended system goes into effect August 1, 1916, and is to be as follows:

1. — (a) All goods invoiced and dispatched from the 1st to the 31st of a month (but subject to the terms of sub-section (c) of this section) shall be paid for in cash, subject to a discount of 4 per cent if paid on or before the 10th of the month following delivery; or $3\frac{1}{2}$ per cent if paid on or before the 10th of the second month following delivery; or 3 per cent if paid on or before the 10th of the third month following delivery; or $2\frac{1}{2}$ per cent if paid on or before the 10th of the fourth month following delivery; unless at the option of the manufacturer he agrees to take a bill or promissory note for a further period not exceeding three months. The bill or note shall be for the amount of the invoice less the discount of $2\frac{1}{2}$ per cent, with the addition of interest on the net amount for the period of the bill or note at the rate of $7\frac{1}{2}$ per cent per annum. (b) If payments are not made on the definite dates above provided, the discount to be allowed shall be the rate provided for the definite date immediately following; but interest at the rate of 6 per cent per annum shall be allowed for the period from the date of payment to such definite date in respect of all amounts so paid before the 10th of the fourth month following delivery. The manufacturer will also show interest at the same rate from the date of payment to the 10th of the first month following delivery in respect of any amounts paid before such date. (c) Goods invoiced and dispatched at the end of a month, if delivered in the United Kingdom on or before the 5th of the following month, shall be due for payment as if delivered the same month as invoiced.

2. — No extra discount, bonus, rebate, commission, or other consideration shall be allowed.

3. — No dating forward shall be allowed. Every order shall be accompanied by a definite date for completion of delivery, provided that the manufacturer agrees to deliver on the said date, subject to the conditions of the acceptance of the order.

4. — These terms shall apply only to trade so far as goods are sold in sterling, but no more favorable conditions shall be granted to purchasers in currency other than sterling.

5. — Every piece shall be measured 38 inches to the yard, and no further over-measure shall be given.

6. — Carriage on goods will be paid to the primary place of destination, or, in the case of goods shipped direct abroad, to port of shipment only. If goods are ordered to be delivered to a shrinker, the place of business of the shrinker will be considered the primary place of destination, unless the goods are collected free of cost by the shrinker.

7. — All patterns 27 inches or more wide and all patterns of whatever dimensions of an area of 243 square inches shall be paid for in full.

ENGLAND FORBIDS THE SALE OF NATIVE WOOLS.

THE requirements of the English government for wool for the supply of clothing for its armies and those of its Allies and for other purposes have caused it to enter upon an arrangement for the purchase of the whole of the 1916 clip of the British islands. An order of the Army Council to that effect was issued June 8 and occasioned quite a stir in the English markets. Inquiries have developed that:

1. No restriction is intended to be placed on the purchase and sale of raw sheepskins.
2. It is not desired to restrict the purchase and sale of skin wool pulled prior to the date of the order.
3. Skin wool pulled after the date of the order is subject to the embargo.

General permission is therefore given to buy, sell, or deal in raw sheepskins and skin wool pulled before June 8.

In consequence the usual provincial auction sales will not be held.

GERMANY AFTER THE WAR.

AN IMPRESSIVE NOTE OF WARNING FROM A BRITISH SCHOLAR AND ECONOMIST.

GREAT BRITAIN and France are resolved upon a customs union against the central powers when the war has ended — but they are not depending upon this alone. The war has given Britons and Frenchmen a more vivid realization than ever of the technical strength of the German Empire, due to intelligent specialization and to education guided by the State toward the enhancement of the great characteristic German industries.

A well-known British writer, Roberts Beaumont, Esq., acknowledges the formidable nature of the industrial contest with which the Allies after the war will be confronted. Discussing this subject in the "Textile Recorder" of Manchester, Mr. Beaumont speaks of Prussia as the economic and industrial as well as the military heart of Teuton power. "Geographically this great workshop of Germany," he says, "is within radii of less than 300 miles of the armed forces of the Allies in Flanders and Northern France. Aix-la-Chapelle, on the extreme border line of

Prussia, is some 180 miles by rail from Lille, and 130 to 140 miles from Mons. This important center of German worsted manufacture is slightly over an hour's journey from Cologne, the capital of Rhenish Prussia, the most thickly populated and thriving industrial province of Germany. Corresponding to the South-east of Lancashire and the West Riding of Yorkshire, the whole province is a beehive of productive workers, and a network of factories, foundries, and engineering establishments."

Prussia's growth has been the great significant fact of European development. As Mr. Beaumont points out:

From the termination of the Franco-German war in 1870 down to the commencement of the present war the consolidated policy of Germany has been exerted, with expanding success, on the development of the iron, tin, zinc, coal, wool, cotton, silk, leather, chemical, and allied industries in this wealthy Prussian province. Investigation shows that the roots of the prosperity attained are established in well-planned educational efforts and precedence, growth being accelerated by the application of trained capacity for industrial organization, and for the employment of progressive commercial practices and routine. To supersede this elaborate and sound performance British skill and technical prowess require to be supported by all the means available for the achievement of manufacturing success which thorough technical training and business resourcefulness are capable of affording.

A keen spirit of coöperation has run all through Prussian industrial advancement. "It deserves to be borne in mind," says Mr. Beaumont, "that the workshop of Prussia has been forged in technical laboratories, and fashioned by educational combinations specialized in means, but unified in ideal and product. Apart from its martial significance there are certain suggestive features in the assertion of Herr Leutze, the German Minister of Finance, to the effect that 'we (the Germans) have been saved by our industries, which have been equal to the greatest tasks, and by German science.' A pregnant fact to be recognized in dissecting the origin and cause of Germany's progress in industrial enterprise is that each of the chief industries is closely linked with State-organized and controlled institutions of science, art, and technology, established and maintained for achieving commercial efficiency and growth. In equipment and administrative strength these institutions, including museums of industrial arts, crafts, and trades, official testing and conditioning

authorities, and scientific laboratories for the prosecution of original research and furthering industrial discovery, as well as the institutes for the dissemination of knowledge in applied science, technology, and manufactures, have been esteemed as second to none by French, American, and English writers on education. The specific objects to be attained by the activities of these institutions have been understood and appreciated by the Prussian student and thinker, and they are distinguishable by their fruits, viz., the organization, development, and success of the manufacturing arts, industries, and commerce of the whole of Germany. Whereas, in this country there appears, even in these days, to be an undercurrent of doubt as to the meaning, import, and utility of technical study covering a period of years, and supplementary to a thorough secondary education, in Germany and on the Continent generally, as in America, and also in Japan and China, the view is held that the fuller and more complete the specialized scheme of instruction regarded as indispensable to the adequate training of the industrial student, the greater the commercial progress achievable."

Great Prussian industrial centers are educational centers also—and to this fact is due a large part of the success achieved. Says Mr. Beaumont further :

Statistical data and commercial history alike, so far as they relate to the construction of the workshop of Prussia, afford convincing evidence of the service a vigorous scheme of technological education is competent of rendering to industrial progress. It renews the vitality of the varied and complete strata of the industrial organism; stimulates and nourishes new growth, and imparts and sustains the power of origination and of discovery. The mining, engineering, and textile industries of Rhenish Prussia have, for a considerable period, flourished under these advantageous conditions. Educationally, the great commercial centers of the province are admirably organized, possessing efficiently staffed and equipped advance schools of technology in which courses of study and of experimental research may be pursued in the distinctive phases of each productive industry. Included in these centers are Aix-la-Chapelle, Daren, and Burscheide, woolen and worsted yarn and fabric manufactures; Foest, a trade in fine woolens and woven felts for printers' materials; Crefeld and Mulheim-on-the-Rhine, velvet and silk weaving and designing, dyeing, and finishing; Munchen-Gladbach and Neuss, cottons and linens; Barmen and Elberfeld, all classes of small-ware and narrow fabric production; Dusseldorf, machinery,

engineering, and paper mills; Soligen and Remschaid, cutlery and steel and ironwares; Mulheim and Duisberg and the district, mining; Cologne, leather, carpet, and furniture manufactures, also soap and alkali products, and Essen, ordnance and munition, engineering and construction.

Excellence in textile manufacture has been one chief object of Prussian instruction, for as Mr. Beaumont writes :

The State-organized and directed system of education takes full cognizance of the technical and scientific training essential to the consolidation and development of this diversified and extensive field of industrial activities. The scheme applied to the textile industries is illustrative of the adequacy of the comprehensive facilities provided for the attainment of exact knowledge in the industries as a whole. Briefly the position is this: At Aix-la-Chapelle (Aachan), Crefeld, Mulheim-on-the-Rhine, and Munchen-Gladbach, and also at Barmen and Elberfeld, the schools of textile technology comprise curricula of theoretical and practical instruction in the entire routine of manufacture from the fibrous material to the commercial product; in textile machine construction, and in mill engineering, planning, and management. This teaching is rendered more effective by the industrial museums of woven and other specimens, typical of historical periods of loom-work and of Oriental and Western manufactures, established at Cologne, Dusseldorf, and Aix-la-Chapelle. They are designed to supplement and strengthen the work of the technical institute. Suggestive and inspiring sources of knowledge are discoverable by the technological student in such textile collections when presented in carefully classified order, as in these instances, relative to ingenuity in fabric construction, principle of woven design and ornament, and economic processes of production.

Mr. Beaumont reminds his readers that German industrial progress is almost wholly a modern development. "From 1871 to 1880," he says, "the manufacturing industries of Prussia were comparatively an inappreciable quantity in the scale of international competition. Subsequently the worsted manufacturers of Aachan attained considerable success in American and other foreign markets. Crefeld's record of commercial progress is yet more distinguished. Its loom products — plain and decorative silks and velvets — now vie with those of Lyons, though formerly they were of small account beyond the borders of Germany. A corresponding growth characterizes the narrow or smallware fabric trade — including trimmings, fancy bindings, and ordinary and figured ribbons — of Barmen and Elberfeld. The success in

each of these branches of textile industry, as in the cotton and linen productions of Munchen-Gladbach and Neuss, has been the reward of technical skill, inventive facility, and energetic business control and enterprise."

Great Britain originally was far in the lead, dominating the commerce of the world, and possessing immensely valuable supplies of crude materials in her own dominions. As Mr. Beaumont says :

The machinery, hereditary practice, and commercial experience were originally in favor of this country, yet the ratio of industrial development has been more marked in recent years in Germany than in England. One cause assigned is that Germany commands a cheap labor market, involving longer hours of employment and lower wages than those applicable to the British factory operative. But this, if admissible, could not account for the phenomenal advance and success in the trade and commerce of Prussia extending over the last three decades, and which retain the vital indications of having been established on broad and secure foundations. Structurally, the educational and industrial resources of Germany constitute one compound and firmly-constructed fabric. On this achievement there has been expended the concentrated efforts of the German practitioner and the German scholar and thinker. The former has brought to bear upon the task technical skill, utilitarian foresight, and commercial needs ; while the latter has inoculated the whole scheme of the fabric with imaginative force, experimental research, and educational thoroughness.

This article is a remarkable tribute to be paid to an enemy in war time — but there can be no question that Mr. Beaumont's statement is just, sound, and unexaggerated. The United Kingdom was not a "decadent" nation when the war began, as official Germany so strenuously insisted, but it was a nation which had unmistakably lost step somewhat in the march of technical and industrial progress, excelled in many directions by Germany, in some directions by France, and inevitably yielding in some quarters to the colossal growth of the United States. These are timely words of warning that are sounded by Mr. Beaumont, and even in the crash of arms they deserve the profound consideration of British statesmanship.

SHIPMENTS OF WOOL AND WOOLEN GOODS
FROM INDIA.

(From Commerce Reports, February 25, 1916.)

THE exports of raw wool from India during 1914-15 amounted to over 44,500,000 pounds, valued at \$7,689,000, as against 49,000,000 pounds, valued at \$8,111,000, in the previous year. The decrease was due to the stoppage of shipments in August when tonnage was not available and to the restrictions placed by the government on the exports of raw wool. The prohibition imposed by the government on exports of raw wool from India to all ports other than those of the United Kingdom, Russia (except the Baltic ports), and France did not apply to qualities of wool not required by manufacturers in India. Subsequently on November 20 the taking of raw wool by sea or land out of British India was prohibited, but this prohibition did not apply to those qualities of wool not required by manufacturers in India.

In 1914-15 India exported woollen goods to the value of \$551,000, as against \$811,000 the previous year. Ninety per cent of these goods consisted of carpets and rugs, of which about 75 per cent went to the United Kingdom and nearly half of the remainder to the United States. Six woollen mills are at present at work in India, one being in Bangalore. Two of the mills, at Cawnpore and Dharival produce 79 per cent of the total out-turn of the Indian mills, the value of which in 1914 was estimated at \$2,595,000. These mills also import Australian wool, which is used either pure or mixed with Indian wool for the production of high-class goods.

THE 1914 UNITED STATES CENSUS.

AFTER months of hard work and careful examination and compilation, the reports for the United States quinquennial census of wool manufactures for the year 1915 are beginning to come to hand. It seems a long time since the inquiry was instituted, and it is much to be desired that these manufacturing reports should reach the public nearer to the time to which they relate. When, however, one considers the number of establishments reporting,

the incomplete condition in which many reports are received by the Census office, their required examination, the correspondence with, and frequently visits to, the establishments, found necessary to secure correct reports, the delay is not surprising.

And when one remembers also that not only one industry, but all the manufacturing industries of the country, involving many thousands of reports, are included, and that they have to be reported not only by industries, but also by the States in which they are located, and these again subdivided into city and town reports, and that all these compilations of reports must be verified in their various stages, the wonder is not that there should be a two years' interval between the collection of the returns and the issuing of the preliminary reports, but rather that with all this mass of detail the Census Bureau should be able to furnish these statements so soon.

We present to our readers herewith the preliminary reports on the manufacture of carpets and rugs and of shoddy. The reports on woolen and worsted manufactures, on felt goods and wool hats, other branches of the wool manufacture, will doubtless be given to the public before the issuance of the October Bulletin, but will be included therein.

It will be noticed that the items respecting capital, employees, and wages are not given. These statements the Bureau is not yet able to furnish, but they will appear in the final report when published, together with other data for which there is no room in the summaries.

MANUFACTURE OF CARPETS AND RUGS.

A summary of the general results of the 1914 census of manufactures for the carpet and rug industry has been issued by Director Samuel L. Rogers, of the Bureau of the Census, Department of Commerce. It consists of a detailed statement of the quantities and cost of raw materials and the quantities and values of the various kinds of woolen carpets and rugs manufactured during 1909 and 1914 in the United States as a whole, prepared under the direction of Mr. William M. Steuart, chief statistician for manufactures. The figures are preliminary and subject to such change and corrections as may become necessary upon further examination of the original returns.

The report does not include statistics for establishments which manufacture carpets in which rags or jute or other vegetable fiber constitutes the sole or principal material.

ESTABLISHMENTS REPORTED.

The number of carpet factories declined from 139 in 1909 to 97 in 1914, or by 30.2 per cent. A number of establishments went out of business during the interval between the censuses, the chief cause for the discontinuance of their operations being the lessened demand for ingrain carpets and rugs, due to a change in styles. Most of the concerns which went out of business during this period had formerly manufactured ingrain carpets. Eight establishments manufacturing jute carpet were classed in this industry in 1909, but are included in the "jute and jute goods" industry in the 1914 census. The value of the products of these concerns was \$736,769 in the earlier, and \$823,798 in the later year.

MATERIALS.

The chief constituent material of the carpet and rug industry is wool, either in raw or in partially-prepared form. The raw wool used in 1914 amounted to 52,552,449 pounds and cost \$10,493,743, as compared with 64,135,020 pounds, costing \$11,752,396, consumed in 1909, the decrease being 18.1 per cent in quantity and 10.7 per cent in cost. Woolen and worsted yarns also constituted important materials. Of woolen yarn, 21,626,360 pounds, costing \$5,821,848, was used in 1914, the quantity being less by 15.9 per cent and the cost greater by 15.6 per cent than the corresponding figures for 1909. Worsted yarn to the amount of 9,267,278 pounds, costing \$4,592,906, was used in 1914, representing decreases of 17.9 per cent in quantity and 17.8 per cent in cost, as compared with the 1909 consumption.

Of materials other than wool, yarn made of jute, ramie, and other vegetable fiber is of greatest importance, this being the only material extensively used in the industry which in 1914 showed a gain as compared with 1909. The amount consumed in the later year, 59,148,266 pounds, costing \$6,040,186, represented an increase of 6.4 per cent in quantity and 53.8 per cent in value in comparison with the 1909 figures. Cotton yarn to the amount of 24,619,137 pounds, costing \$4,637,673, and linen yarn amounting to 7,602,200 pounds, costing \$1,414,924, were the other important materials used. In the case of the former the quantity and cost were less by 5.9 per cent and 2.8 per cent, respectively, in 1914 than in 1909; and in the case of the latter the corresponding decreases amounted to 13.5 per cent and 11.9 per cent respectively.

More than three-fourths of the mills purchased the yarn which they used in weaving carpets, there being only 22 establishments which bought the wool, hair, or cotton, and themselves spun the yarn they consumed. These establishments produced, for their own consumption, 35,615,821 pounds of woolen, 10,253,791 pounds of worsted, and 2,068,435 pounds of cotton yarn. Thus the total amount of woolen yarn used in the manufacture of carpets and

rugs was 57,242,181 pounds; of worsted yarn, 19,521,069 pounds; and of cotton yarn, 26,687,572 pounds.

PRODUCTS.

In the final report on the carpet and rug industry, the amounts and values of the various kinds of carpets will be reported separately from those of the corresponding kinds of rugs. In this preliminary statement, however, the figures for all carpets and rugs of the same kinds are combined. The total value of products reported in 1914, \$69,128,185, was less by \$2,059,967, or 2.9 per cent, than the corresponding total for 1909, \$71,188,152.

Axminster and Moquette carpets and rugs ranked first in respect to quantity produced in 1914, and also in respect to value. The output reported for that year was 15,742,835 square yards, valued at \$18,578,693, representing increases of three-tenths of 1 per cent in quantity and 6.9 per cent in value over the corresponding figures for 1909.

Tapestry Brussels carpets and rugs had the second largest output in respect to quantity, 13,614,354 square yards being produced in 1914, as compared with 17,078,476 square yards in 1909, the decrease being 20.3 per cent. In respect to value, however, this class of products occupied fourth place, being led by Axminster, Moquette, tapestry velvet, and Wilton. Between 1909 and 1914 the value of the annual production of tapestry Brussels carpets and rugs decreased from \$12,999,333 to \$9,852,647, or by 24.2 per cent.

Tapestry velvet carpets and rugs ranked third as to quantity and second as to value of output in 1914, and showed pronounced increases in both respects as compared with the 1909 figures. The production in the later year was 13,227,819 square yards, valued at \$12,867,635, representing increases of 24.1 per cent in quantity and 42.5 per cent in value as compared with 1909.

Wilton carpets and rugs, which ranked fifth in respect to quantity and third in respect to value in 1914, also showed pronounced gains, the output in that year amounting to 5,616,263 square yards, valued at \$11,929,605, and representing increases of 5.1 per cent in quantity and 17.9 per cent in value over the corresponding figures for 1909.

The remaining products of the industry—consisting of body Brussels carpets and rugs, ingrain carpets and rugs, Smyrna rugs, Colonial or rag rugs, wool and paper-fiber rugs, other wool rugs, and other products—were valued at \$15,899,605 in 1914. The production of body Brussels, ingrains, and Smyrna rugs showed pronounced declines in 1914 as compared with 1909.

The production of wool carpets and rugs is confined to six States. Of these, New York reported products to the value of \$26,075,521, representing 37.7 per cent of the total for the indus-

try; Pennsylvania, \$23,099,647, or 33.4 per cent; and Massachusetts, \$10,981,344, or 15.9 per cent; and the remainder, \$8,971,673, was reported from Connecticut, New Jersey, and Indiana.

Of the total number of establishments reported, 63, or nearly two-thirds, were located in Pennsylvania, 14 in New York, 12 in Massachusetts, 4 in New Jersey, 3 in Connecticut, and 1 in Indiana.

MANUFACTURE OF CARPETS AND RUGS IN THE UNITED STATES —
COMPARATIVE SUMMARY: 1914 AND 1909.

	1914.	1909.	Per cent of increase (+) or decrease (-) 1909-1914.
Number of establishments	97	139	-30.2
PRINCIPAL MATERIALS.			
Wool (in condition purchased)			
Pounds	52,552,449	64,135,020	-18.1
Cost	\$10,493,743	\$11,752,396	-10.7
Equivalent of above in scoured condition, pounds	39,218,831	51,474,353	-23.8
Wool and other noils and wool waste:			
Pounds	3,419,715	2,732,034	+25.2
Cost	\$476,610	\$513,392	-7.2
Animal hair (including mohair, camel hair, etc.):			
Pounds	3,469,283	5,400,944	-35.8
Cost	\$402,225	\$474,057	-15.2
Cotton, domestic:			
Pounds	3,802,789	5,147,130	-26.1
Cost	\$343,916	\$533,302	-35.5
Yarns:			
Woolen —			
Pounds	21,626,360	25,718,747	-15.9
Cost	\$5,821,848	\$5,036,118	+15.6
Worsted —			
Pounds	9,267,278	11,292,749	-17.9
Cost	\$4,592,906	\$5,558,915	-17.8
Merino (cotton mixed) —			
Pounds	68,082	584,188	-88.3
Cost	\$13,398	\$85,950	-84.4
Cotton —			
Pounds	24,619,137	26,166,241	-5.9
Cost	\$4,637,673	\$4,772,594	-2.8
Linen —			
Pounds	7,602,200	8,792,876	-13.5
Cost	\$1,414,924	\$1,606,009	-11.9
Jute, ramie, and other vegetable fiber —			
Pounds	59,148,266	55,592,343	+6.4
Cost	\$6,040,186	\$3,926,694	+53.8
Chemicals and dyestuffs, cost	\$1,378,509	\$1,729,492	-20.3

MANUFACTURE OF CARPETS AND RUGS. — *Continued.*

	1914.	1909.	Per cent of increase (+) or decrease (-) 1909-1914.
PRODUCTS.			
Axminster and Moquette carpets and rugs:			
Square yards	15,742,835	15,691,358	+0.3
Value	\$18,578,693	\$17,372,706	+6.9
Wilton carpets and rugs:			
Square yards	5,616,263	5,343,616	+5.1
Value	\$11,929,605	\$10,119,330	+17.9
Body Brussels carpets and rugs:			
Square yards	2,698,840	4,436,457	-39.2
Value	\$3,995,626	\$5,550,189	-28.0
Tapestry velvet carpets and rugs:			
Square yards	13,227,819	10,660,170	+24.1
Value	\$12,867,635	\$9,027,193	+42.5
Tapestry Brussels carpets and rugs:			
Square yards	13,614,354	17,078,476	-20.3
Value	\$9,852,647	\$12,999,333	-24.2
Ingrain carpets and rugs:			
Square yards	8,973,270	23,931,624	-62.5
Value	\$3,406,381	\$9,158,632	-62.8
Smyrna rugs:			
Square yards	822,150	1,400,233	-41.3
Value	\$870,891	\$1,660,322	-47.5
Colonial or rag rugs:			
Square yards	779,732	474,631	+64.3
Value	\$530,259	\$250,593	+111.6
Wool and paper-fiber rugs:			
Square yards	4,168,954	(1)	.....
Value	\$1,543,079	(1)	.....
Other wool rugs:			
Square yards	695,957	2,202,316	.....
Value	\$1,108,506	\$828,040	.....
All other products, value	\$4,444,863	\$4,221,814	+5.3
Total value	\$69,128,185	\$71,188,152	-2.9
MACHINERY.			
Woolen cards, number of sets	465	456	+2.0
Wool combing machines, number	114	132	-13.6
Of American manufacture	75	68	10.3
Of Foreign manufacture	39	64	-39.1
Pickers, number	89	140	-57.3
Garnet machines, number	30	27	11.1
Spindles:			
Spinning, mule	102,238	94,798	+7.8
Spinning, frame	110,090	116,674	-5.6
Doubling and twisting	34,434	40,624	-15.2
Carpet and rug looms:			
Power	9,821	11,736	-16.3
Hand	29	207	-86.0

¹ Not reported separately.

MANUFACTURE OF WOOL SHODDY.

The figures are preliminary and subject to such change and correction as may become necessary upon further examination of the original reports.

ESTABLISHMENTS REPORTING.

The industry in 1914 was restricted to establishments manufacturing wool shoddy as the chief or only product.

Prior to this census, a few establishments engaged primarily in the manufacture of cotton or mattress shoddy were included in the industry, which was designated by the general title of "Shoddy." The number of establishments covered by the wool-shoddy industry of 1914 was 64, as compared with 80 in 1909. The data for 8 establishments engaged in the manufacture of cotton shoddy, which were included in this industry in 1909, have now been deducted from the figures for that year; consequently the statistics here given for 1909, as well as for 1914, relate to the production of wool shoddy only. Twenty-six of the establishments reporting in 1909 discontinued operations prior to 1914, and 5 others, although continuing in business, ceased to manufacture shoddy. On the other hand, 15 concerns commenced operations between 1909 and 1914, so that the net diminution in number of establishments was 16.

MATERIALS.

The principal materials used in the wool-shoddy industry are rags, tailors' clippings, etc., of which there were consumed in 1914 57,367,962 pounds, at a cost of \$3,103,864, representing an increase of 32.5 per cent in quantity and 17.4 per cent in cost, as compared with the corresponding consumption in 1909—43,296,261 pounds costing \$2,644,570. In addition, 6,879,366 pounds of noils and waste, at a cost of \$863,633, were consumed in 1914, as compared with 7,567,579 pounds, costing \$917,976, in 1909. This item is composed chiefly of "thread waste," such as hard ends, etc., which is sold to the shoddy mills to be reduced to the original fiber. Small amounts of raw wool and of recovered wool fiber were also reported among the materials used.

PRODUCTS.

The total value of products in 1914 was \$7,706,843, an increase of 12.4 per cent over the 1909 figure, \$6,854,993. More than three-fourths—77.6 per cent—of the 1914 total represented the value of recovered wool fiber, of which the production in that year amounted to 43,156,037 pounds, valued at \$5,977,284, an increase of 12.7 per cent in quantity and 5.2 per cent in value as compared with the corresponding figures for 1909.

Of carbonized rags (classified in 1909 as "wool extract") there were reported, for 1914, 4,627,568 pounds, valued at \$636,332, representing an increase of 26.8 per cent in quantity and 7.2 per cent in value as compared with the 1909 output. Carbonized rags or wool extract is made by chemical action on mixed fabrics and yarns, which destroys the vegetable fiber and leaves the wool part of the fabric uninjured. It is not in condition for further use in manufacture until it has been made into loose fiber by the operation of a picker or some similar machine, when it becomes pure wool shoddy.

The only other product separately specified is cotton and mattress shoddies, of which a small amount — 509,500 pounds, valued as \$27,065 — was made in 1914 as a by-product by mills engaged primarily in the manufacture of pure wool shoddy or recovered wool fiber.

The value of all other products in 1914 amounted to \$659,462, representing an increase of 5.2 per cent as compared with 1909. The amount received from contract work for others on material or goods furnished by them was \$406,700 in 1914, an increase of 79 per cent over the corresponding figure for 1909.

Other details of quantity and value for 1914 and 1909 are shown in the following summary, which includes data in regard to the machinery used in the industry :

MANUFACTURE OF WOOL SHODDY IN THE UNITED STATES—COMPARATIVE SUMMARY: 1914 AND 1909.

	1914.	1909.	Per Cent of In- crease, 1909-1914. ¹
Number of establishments	64	80	· · · · ·
MATERIALS.			
Rags, clippings, etc.:			
Pounds	57,367,962	43,296,261	32.5
Value	\$3,103,864	\$2,644,570	17.4
Wool and other noils and wool waste:			
Pounds	6,879,366	7,567,579	-9.1
Value	\$863,633	\$917,976	-5.9
Recovered wool fiber:			
Pounds	1,658,432	533,822	210.7
Value	\$168,457	\$48,342	248.5
Wool (in condition purchased):			
Pounds	203,868	237,097	-14.0
Value	\$81,514	\$98,032	-16.8
Chemicals and dyestuffs:			
Value	\$103,849	\$128,241	-24.9
PRODUCTS.			
Recovered wool fiber:			
Pounds	43,156,037	38,291,465	12.7
Value	\$5,977,284	\$5,679,283	5.2
Carbonized rags (wool extract):			
Pounds	4,627,568	3,648,662	26.8
Value	\$636,332	\$593,331	7.2
Cotton and mattress shoddies:			
Pounds	509,500	(⁴)	· · · · ·
Value	\$27,065	(⁴)	· · · · ·
All other products, value	\$659,462	\$626,950	5.2
Amount received from contract work for others on materials or goods furnished by them	\$406,700	\$227,242	79.0
Total value	² \$7,706,843	³ \$6,854,993	12.4
MACHINERY.			
Cards, number of sets	574	503	14.1
Pickers, number	315	332	-5.1
Garnet machines, number	178	141	26.2

¹ A minus sign (—) denotes a decrease.² In addition, shoddy to the value of \$151,982 was made for sale by four establishments engaged primarily in the manufacture of other products.³ In addition, shoddy to the value of \$361,278 was made by ten establishments engaged primarily in the manufacture of other products.⁴ Not reported separately.

TOP VALUING AND BLENDING.

A COMPARATIVELY little understood subject, but one of great importance to the worsted manufacturer particularly, is the blending of wools to produce the desired results, not only in the quality and the cost of the tops he is required to produce, but also in the yarn to be made from those tops. This matter is treated carefully and at some length in an article under the above title, published in the Bradford Wool Record of June 15.

Its value warrants its reproduction in these pages. Not only is the blending of wools discussed, but the necessity of the careful selection of the oils adapted to the wools used is clearly brought out, and the understanding of the effect of the oil on the fiber, on the top, and on the yarn is shown to be a necessity to the success of the manufacturer.

The calculations by which the costs of the top or yarn are determined are discussed, and warning is given against erroneous methods of determining the cost of a given combination.

The article follows:

In the manufacture of worsted cloth the stages between the wool grower and the weaver of the cloth are numerous. Of course there are firms which buy wool and sell finished cloth, that is, are equipped with machinery for converting greasy wool into dyed and finished cloth, but these are not many. It is also known that some of these firms market a portion of their own yarns and purchase for their weaving departments yarns from other spinners. There are advantages and disadvantages in this sectional and single process of worsted manufacture, which may be summarized as follows:— (1) Specialization leads to greater efficiency and more economic working. (2) When fashions demand the employment of some other material than it has been customary to work, it is easier to seek a new commission comber or to buy different tops than to change the machinery installed for working the regular wool. Similarly, the manufacturer can purchase other yarns much more readily than he could have produced them. (3) The making of standard tops and yarns is an advantage of sectional working. There are so many varieties of wool that it has been found more satisfactory to sort these into matchings, and from them make standard tops. Of necessity this list is a lengthy one, and it would be much longer if all matchings from all breeds were made up separately. (4) There is also a revaluing of the wool. Tops are wools which have been scoured, prepared, and combed, but in these operations it may be made from 50% to 400% more valuable. The checking of the

costs of single processes is facilitated by this specialized system of manufacture.

Though it is possible to point out these advantages, it may not be on account of them that specialization has grown. The present worsted industry has developed from the hand-combing, hand-spinning, and hand-weaving days of the 18th century. Specialization was rife even then, and present specialization simply with power attached is the survival of the early manufacturing divisions.

The disadvantages of single-process working may be seen in the following:—(1) The possible wrong treatment of wool in the earlier operations, or the employment of wool unsuitable for subsequent requirements, by those who know that the responsibility for defects in yarn or cloth will rest on other shoulders. (2) The working for an artificial or temporary improvement, instead of considering the ultimate use of the wool. (3) The ignorance on the spinner's part of the top contents, and on the manufacturers' part of the yarn contents, and on the dyers' part of the cloth contents, is often felt to be a great drawback. Such knowledge in most cases would be most useful in directing the treatment given to the wool in the various processes.

It can be gathered from this that top and yarn buying are very important, and no one but thoroughly practical men, of sound judgment and insight, can be entrusted with their choice and purchase. In top buying, sight, touch, and smell are requisitioned in bringing to a conclusion the buyer's estimate of the quality, spinning capacity, and value of tops he has submitted to him by the combers. And in this we are assuming that familiarity with this work has acquainted him with the ruling prices, and that he is keen to buy at the right time, and that he can obtain a sufficient quantity in a given time, and can if necessary repeat his order for an exactly similar lot. Even then he cannot with any degree of accuracy (unless he is tolerably familiar with the comber, gained by considerable dealings with him and the wools he uses) judge accurately of the spinning limit of the wool, unless, of course, he fixes it low enough. It is easy to be deceived by appearances, though if the buyer is wide awake he will usually detect any signs of weakness in the tops.

To state the composition of any top made from blended wools needs more than an expert. To resort to thorough analysis a black velvet covered board is necessary, or to be up-to-date a fiber-measuring machine and a powerful microscope (rarely seen in the trade) for the recognition of skin wool. These are rarely requisitioned, the top buyer contenting himself by making "draws" from the top, by which he estimates the average length of fibers, and then examines the fibers for diameter, which he calls quality. When the black board is used there are many details shown up. The presence of nepes is easily seen, and the vegetable matter cannot hide itself, though this latter defect is seen on the top itself, burrs being so apparent as to draw forth

the remark from a buyer when inspecting a burry top, "It's more like a kern (currant) pudding." The waviness or non-waviness of the wool is very visible when seen upon the black velvet, and this conveys an impression of quality to the buyer's mind. Its value is in enabling a good yarn to be produced, requiring less twist to make it strong. A certain waviness is looked for accompanying a certain fineness of fiber, and when it is present it conveys to the buyer's mind the idea that the wool is sound.

The top buyer is alive to notice the ease or resistance with which the wool "draws" from the top. This does more than speak of the age of the top. It is often his informant of the character of the oil used (if any) in carding and combing. When the tops seem full of electricity they are either new combed or over scoured, or both. New tops are not at their best for being judged or being drawn. They should be "cellared" for at least a fortnight, and when a top is required as a sample it is usual to take one from the bottom of the top bag, one which has been pressed under the weight of the remaining tops, which has caused the fibers to "set."

The handle of the wool is important. If harsh-handling wool were used for underwear goods the wearer, though knowing little about wool, would soon be made familiar with one characteristic of some wools. There are other uses of wools, in which it is equally important that soft handle be maintained. The buyer rubs his fingers among the fibers in the top, which enables him, when dealing with wool of normal character, to give the quality before he looks at it. For most purposes he has to avoid this harsh wool, knowing full well that there is no process by which a wool can be given an improved handle.

When cheap oils have been used for lubricating the wool to assist it in the combing process, their presence can be often detected by their unmistakable odor. Almost any kind of oil will lubricate wool, but when the subsequent operations of dyeing and finishing are considered, many oils are very unsuitable. Oils of this description have only one good feature, and that is their cheapness, and the worsted spinner must avoid tops in which they have been used, or he may be called upon for damages due to the subsequent cloth taking a "streaky" dye, or some other defect caused by the presence of cheap oil.

Reference has already been made to the blending of wools which takes place prior to topmaking. Most topmakers are careful to keep secret the contents of their tops for reasons best imagined. So many bales of Australian, New Zealand, Cape, South American, and skin wools may be blended for a 60's or 64's top. In handling tops of this make the buyer is unable to distinguish the character of any single quality of wool, and judges the top on its composite quality. There are also certain firms who make tops of one description of wool and market them under the name of the wool, such as Cape 64's, B.A. 60's, and P.P. 70's,

etc. These are bought for working up separately for special purposes, say B.A. for hosieries, Cape for bleached warps, etc.

Despite the amount of blending which takes place in topmaking, blending is still further done in the drawing operation. The blending prior to topmaking is in 80% of cases to make a top at a given price, without any consideration for subsequent yarn requirements. It is then necessary for the spinner to blend for his own requirements, and in maintaining his standards of yarn he has to use care and skill in both buying and blending. In this latter purpose he is largely assisted when he can procure large quantities of tops of the same standard of quality throughout.

As illustrating this point two examples are taken from the trade. Spinner A has good connections and contracts for the supply of large quantities of Botany tops of given standard. As a result, he can produce all the yarns he requires from six different tops. Spinner B, for the supply of similar yarns will use anywhere from 12 to 16 different lots of tops, buying and using practically from hand to mouth. For the same yarn he will vary his mixings often, using on some occasions three varieties of tops, and on other occasions nine varieties — to produce the same yarn.

The behavior of the material in the drawing operations is often a good criterion of what will happen in the spinning, and the visits which the top buyer makes to this department are productive of information, and whenever changes are made in the tops used, and he is anxious as to what change will be effective in the spinning of the material, he should note carefully the changes, if any, effected in the drawing. When new tops are substituted for old, he should see that the oil-cream added in the gilling is sufficient, a little in excess of what was previously used, unless the new tops contain more oil than the old. It will be noticed in the visits to the heavier spindle boxes that the slubbing of some qualities is rounder and fuller than that of others, which latter seem somewhat flat and dead. This is not altogether a question of quality or waviness. It appears to be due to some property of fiber repellance, which science has not yet made clear regarding its causation or control. It is, however, most useful when making yarns of full handle, such as are required for hosieries, etc., and is peculiar to certain wools — Downs, Cheviot, and B.A. and M.V. merinos — these responding readily to the spinner's desire for "sponginess" in yarn formation.

One writer recently explained that Buenos Aires wools were not so bulky as was generally supposed, explaining that they had gained this name by being used in France and Belgium on machinery designed to produce bulky yarn. This is not the conclusion of many who regularly handle various classes of wool. B.A. wool is very readily distinguished by its handle, and it is also noticed that in similar sized tops of B.A. wool and Australian, there is usually a difference in their weight, the Australian being 20 to 40% heavier than the B.A.

The question is often asked, "What becomes of all the skin

wool produced?" The weight of tops sold as skin wool tops is infinitesimal compared with the production of skin wool. It is evident that the bulk of this wool is absorbed into woolen manufacturer's blends and into the ordinary wool tops. The spinning property of skin wool is considered to be below that of normal wool when of equal length and fineness, and the buyer is careful to notice the appearance and handle of the tops to avoid becoming the possessor of tops containing an excess amount of this defective wool.

The importance of top buying lies in the experience, skill, and sound judgment required for its successful performance. A slight or almost invisible defect, if overlooked, may make a difference between profit and loss. For instance, neps in a top cannot be seen by casual observance; the sliver must be opened out to find them. But neps in a yarn are plain to almost any one, and are visible to the least observant when on the face of the cloth. And just as strikingly patent do other defects become, some making uneven yarn, when length has not been uniform, another a bad spin, because of the presence of too much skin wool, etc. These faults do not always reveal themselves in the drawing, not always in the spinning, and more than one spinner has delivered yarn which he supposed was all right, only to be shown certain defects revealed in the finishing, which defects were in the top when he bought it.

In blending tops it is also important carefully to calculate the cost. Tops are blended by putting a certain number of ends up behind the mixing or first gill box. Some firms make a "mix" by weighing out the different lots comprising the blend into "weighs" of say 100 or 200 pounds, and the "mixer" has instructions to use one weight entirely, before starting another. Where this method is followed the cost of the blend can be determined beforehand.

At other firms a different system prevails. The girl is given instructions to feed up a certain number of ends of each lot in the blend, and to maintain this order until otherwise instructed. In this system it is hardly possible to determine accurately the cost of the blend beforehand. The top slivers vary in thickness, and though a similar number of ends of two of the lots may be going into the machine, yet this does not signify that a similar weight of each will be used, and in this the spinner may underrate the cost of the blend, besides having irregular spinning conditions. One is reminded of the two orange sellers who started the day with 30 oranges each. A marked her lot at 2 a d., and B marked her lot at 3 a d. However, they decided to put them together and sell at 5 for 2d., which they considered was equal to their previous rates. At the end of the day they quarreled. They should have received 2/1 had they sold them separately, but having only received 2/- for the combined lots they could not account for their loss. It is possible for similar losses or leakages in top-blending, and spinners are advised accordingly.

THE BRITISH WAR OFFICE AND SPINNERS' PROFITS.

UNDER the above title "The Wool Record" of Bradford, England, in its issue of May 4, 1916, presents an interesting statement of the way in which the War Office in England handles the spinning of woolen and worsted yarns by the manufacturers, under the abnormal conditions originating in the present struggle. By the imposition of a special tax on excess profits the spinners are restricted to a reasonable profit on their business and the interests of the government and the public are conserved. The article is as follows:

The whole spirit of the country seems to be against the idea of any one making huge profits out of the war, and it will be remembered that a short time ago Sir George Reid's utterances to that effect in Parliament were warmly received. The increase in the size of our army is solely to blame, because the government has required such a large proportion of the output in many trades. This is especially true of the wool trade, and the hosiery manufacturers and spinners have been the first to feel the new government system. It is obvious that if most of the large firms in the trade are working to tender, they do not want to send in estimates, get the order, and then have no raw material. The remembrance of what happened to one prominent Leicester firm two or three years ago through having to cover at unprofitable rates is too clear, and no firm cares to tender without making arrangements for supplies, with the result that the government has frequently sent the market against itself in this way since the outbreak of the war.

Still, the costs of spinning and manufacturing have gone up appreciably compared with peace times, and it is only fair that profits should form some ratio with the capital employed; it will be too much to expect them to work for ordinary profits in times like these, when their capital on trade will practically not be more than one-half what it was in the early part of 1914. On the other hand, the government has had to consider the taxpayer, and the amount of money wasted has no doubt been enormous, though not always avoidable. It is a healthy sign when men such as Mr. T. H. Jones and Mr. J. N. Tod have been taken from the wool trade to help to bring about greater efficiency in working in the matter of government supplies and the control of export business. "Every man to his trade" is a good precept to-day in this connection.

We have recently been favored with full particulars of the arrangements arrived at between government representatives and the hosiery spinners whereby they shall be paid on certain margins for the cost of tops. These margins increase as prices of

tops advance, and the variation in price per count has also been fixed. The profit to be allowed to spinners is still satisfactory, but seeing that there will be a certain amount of it deducted for excess profit tax the trade will probably be run on what is as fair a basis to the government, the spinners and manufacturers and the taxpayers, as could well be struck. The order will not be made retrospective and will not apply to any orders placed before February 15, and the arrangement is to stand till July 15.

We give below full details of the agreement just recently come to between representatives of the War Trade Department and yarn spinners and hosiery manufacturers, and it will be seen that the figures of "The Wool Record" are approved of officially.

This arrangement does not interfere with orders placed before February 15, neither does it interfere with Admiralty yarns.

A flat rate or margin has been fixed as follows:

FOR SHETLAND AND MILITARY GRAY.

Tops costing 1/9 to 2/1, margin 1/-
" " 2/1 " 2/5 " 1/0½
" " 2/5 " 2/9 " 1/1
" " 2/9 " 3/7 " 1/1½

All yarns to pass the Conditioning House test at 18½ per cent. None of these to have more than 12½ per cent dye in.

R. Khaki quality 1s. on price of best Persian tops. Scale ½d. for two counts from 12's to 16's. (If contract taken in 12's and they want 13's it is ¼d. on.)

A farthing per count from 16's to 20's.

These prices are for all qualities up to 50's.

Single yarns for splicing, etc., on cones, same price as 3-12's scoureds.

The price of tops to be the price of the last publication of "The Wool Record."

This arrangement to stand until 15th July.

Orders to be given out as before from the hosiery manufacturers.

We think above arrangement satisfactory to government and spinners alike.

THE TEXTILE INDUSTRIES OF FRANCE IN 1916.

*EXTRACTS FROM REPORT OF CONSUL A. M. THACKARA,
APRIL 2, 1916.

NOTWITHSTANDING the demands of the war upon the brain and brawn of France, her textile industries in those districts not occupied by the warring armies appear to be in a more favorable condition than during the latter half of the year 1914. The

* See Commerce Reports, June 28, 1916.

resourcefulness and energy of the French people are manifested in the more peaceful walks of life equally as much as in their military service.

Manufacturers whose plants were destroyed by their enemies started anew, either on their old locations or elsewhere in France, as soon as they could find suitable places and secure necessary capital.

In many cases mills have changed the character of their products, as from silk to wool goods especially for women's wear, but with all their efforts the manufacturers of wool goods have not been able to keep pace with the demands for army and civilian life, and large quantities of yarns and cloths have been imported, mostly from England. The linen industry has been more unfavorably affected, while the cotton mills seem to have been greatly troubled by the difficulty of obtaining necessary supplies of raw material.

The silk manufacturers of France have been fortunate in securing orders for large quantities of goods for export usually supplied from German sources.

Mr. Thaekara comments as follows:

As a rule the conditions that prevailed in the textile industries of France in 1915 were much more favorable than during the last semester of the preceding year. Most of the factories, excepting those that were located in the invaded districts, were working at a maximum capacity so far as labor and raw material supplies would permit. Many of the manufacturers whose plants were destroyed or were taken possession of by the enemy have started factories in other parts of France or have associated themselves with existing concerns.

Skilled labor was scarce and wages were high. Whenever possible women have been substituted for men, and in many cases with decided success. Raw materials, especially dyestuffs, were difficult to obtain in the desired quantities, and the prices, particularly of dyestuffs, were abnormally high. Coal for fuel also increased in price and in some regions was scarce on account of the lack of transportation facilities. The prices for scouring and finishing also advanced considerably.

THE TRADE IN COTTON GOODS.

The spinners and weavers were kept busy throughout the year in filling the large orders placed by the government for military purposes and in producing goods for home and foreign consumption. Stocks were exhausted, the mills could not supply demand,

hence large quantities of yarn and textiles had to be imported. Prices advanced, but did not in all instances keep pace with the greatly increased cost of production. The demand for yarn was especially great and supplies were difficult to obtain on account of high freight rates and lack of transportation facilities. Some of the finer grades of Egyptian yarns were sold at fabulous prices.

The exports of cotton goods in 1915 were valued at \$29,413,779 against \$54,214,858 in 1914. The values of the exports of cotton yarn during the same years were \$684,185 and \$1,978,443, respectively. The value of the imports of cotton textiles in 1915, which broke all previous records, was \$71,794,070 and of cotton yarn \$45,194,810, as compared with \$8,235,503 and \$4,032,349, respectively, in 1914.

The American consul at Rouen reports as follows regarding the imports of foreign printed goods :

Increased sale prices caused before the middle of the year rather large imports of foreign printed goods of British and Italian origin. As French manufacturers were unable to fully supply their demand, foreign prints found their way also into the French colonies.

The cotton situation in France was affected to some extent by the decree which prohibits the exportation of French cotton products to Switzerland, unless the shipper can give guarantees that his firm is in the cotton business and that the party in Switzerland to whom the goods are shipped will give a guaranty that they are to be used for further manufacturing purposes, such as for embroidery, etc., and when completed will not be shipped to enemy countries.

The prohibition by Switzerland of the export of all kinds of cotton cloths, in order to protect its great embroidery industries in eastern Switzerland, also had an indirect effect upon the French cotton-textile industry.

Some of the cotton mills in France that are located near the area occupied by the enemy are being run under the most difficult conditions.

ACTIVITIES IN THE WOOLEN INDUSTRY.

The woolen industry has been seriously affected by the war, owing to the principal centers of production on the northern frontier having fallen into the hands of the enemy shortly after the outbreak of hostilities. Outside of the invaded districts, however, the output has been greatly increased, owing to the effective measures taken to accelerate the production. New factories have been erected, some of the old plants have been enlarged, and working hours have been increased. At Elbeuf, for example, in September, 1915, 552,000 meters (603,673 yards)

of cloth were produced, as compared with 262,000 meters in September, 1914, and 412,000 meters in March, 1915. Many of the factories that were formerly engaged in the production of other goods, such as certain grades of silks, are now supplying the great demands for woolen materials for women's wear. Notwithstanding the increased efforts of the wool spinners and weavers, the output of woolen tissues was not sufficient to supply the great demands for the use of the army and for the civilian population. Large purchases of foreign products were necessary, the great bulk of which were made in Great Britain. The imports of woolen yarn in 1915 were valued at \$6,203,213, and of woolen tissues \$73,579,706, as compared with \$839,550 and \$9,097,248, respectively, in 1914. Of the receipts of woolen textiles during last year \$39,048,725 were of British origin. The value of the exports of woolen goods in 1915 was only \$2,592,569 and of woolen yarn \$75,849, as compared with \$29,766,776 and \$9,857,475, respectively, during the previous year.

DIFFICULTIES OF THE LINEN TRADE.

The linen industry of France was unfavorably affected by war conditions during last year, as the principal centers of production are located in the invaded districts. In addition, the spinners whose plants were in operation experienced great difficulty in obtaining their flax from Russia and Belgium, the imports falling from 75,386 metric tons in 1914 to 3,305 tons in 1915.

Both foreign and domestic trade in the finished products fell off greatly on account of the inability of the manufacturers to fill their orders and of smaller purchases made by the consumers. There was a sharp rise in the prices, owing principally to the increased cost of production. As compared with 1914 the exports of linen textiles fell from \$3,733,392 to \$758,104.

The manufacturers of twine and cordage were kept busy throughout the year in supplying the orders for military and ordinary trade purposes.

THE SILK INDUSTRY.

Favorable conditions prevailed generally in the silk industry of France throughout 1915. In the Lyons district great activity was displayed notwithstanding the reduced number of working people. The places of those who were ordered to the front were filled by women and by refugees from different districts of France and from Belgium. Many articles were manufactured that were formerly produced in Crefeld and other textile centers of Germany. Large orders were received from American, English, Spanish, and South American buyers for goods that on account of the existing conditions could not be obtained from German sources. It is estimated that the value of the produc-

tion of ribbons in the St. Etienne district in 1915 will equal if not exceed some normal years. Old stocks of raw materials were consumed and manufactured goods on hand were sold. Unprecedented quantities of velvet ribbons, made wholly or partly of cotton, formerly manufactured in Germany, were produced. If transportation facilities had been better and labor more abundant, 1915 would have been classed as a good average year for the ribbon industry. The great advance of prices in the French silk market was due principally to the scarcity of dyestuffs, to the higher prices demanded by the dyers and finishers, to increased wages, and to the higher cost of raw silk.

The value of silk exported from France in 1915 was \$63,558,181, silk yarn \$3,435,786, and postal packages containing silk goods \$1,410,058, as compared with \$59,841,387, \$3,339,093, and \$4,569,468, respectively, in 1914. The exports of silk goods during last year were larger than the average shipments for the past ten years.

AMERICAN VIEWS OF GERMAN TRADE.

BUSINESS STILL ACTIVE AND PROSPEROUS, THOUGH FACED BY MANY DIFFICULTIES.

A CAREFUL review of industrial and commercial conditions in general has lately been secured by the Department of Commerce from American Consuls in the chief centers of German trade and manufacturing. Consul General Lay at Berlin states that the textile industries, as might be anticipated, are laboring under a serious disadvantage in the general shortage of raw materials. "It has been ascertained," the Consul General said, "that cotton is no longer needed for the manufacture of high explosives because other satisfactory substitutes have been found. Notwithstanding the apparent adequacy of the cotton supply for military purposes, the deficiency was more and more manifest for civil purposes. During the closing months of last year it was generally understood that a complete requisition of the available supplies of cotton, cloth, and knit goods would be undertaken by the government during the opening months of 1916. These preventive and regulatory measures have now gone into force. Besides the shortage of raw materials all branches of the textile industry report an insufficient supply of skilled labor. The limitations on the manufacture of cotton materials and the appropriation of certain textile products by the government have forced many manufacturers to close their factories.

The government has limited the manufacture of textile products by reducing the number of working days (one day a week has been cut out). The lace and embroidery manufacturing industries have been at a standstill since the beginning of the war. The trimming and velvet industries have also been seriously affected by the lack of labor and the official regulations. It was reported on January 1, 1916, that the cotton spinning mills of Saxony were working on an average of two or three days a week, and that half of the hosiery mills had shut down entirely. The government has attempted to encourage the raising of flax and hemp in Germany by publishing circulars and furnishing inducements to agriculturists. This movement has caused a larger amount of land to be put into flax than during 1914."

Consul Damm at Aix-la-Chapelle, speaking particularly of the textile industries in this important industrial district, states that "The textile industry in Germany is almost entirely dependent upon imported raw material; even of the raw wool required only a small portion is of domestic origin. The military requirements as to various textile products are enormous while the war is in progress, and in order that these might be fully met in spite of the limited supply of the necessary raw material the industry has been subjected to a number of government regulations and restrictions in order to secure organization in proper distribution and economical use. No other industry is so carefully regulated. The woolen mills are chiefly engaged in manufacturing army supplies, and the manufacture of cotton goods for civilian purposes is restricted.

"In order to extend the supply of raw material and to assure the continuous employment of labor the textile mills are limited to five days' work a week, no working day to be longer than ten hours. Mills engaged on government contracts and supplied with raw material are able to employ their hands for the full period of 50 hours a week at increased wages. While the restrictions and regulations very materially lowered the aggregate production of many mills and of the industry as a whole, the concerns that were enabled to operate because of their supply of raw material have made good profits."

Of the woolen goods manufacture of Aix-la-Chapelle, founded many centuries ago and numbering about 75 different registered firms engaged in the manufacture of cloths and dress goods, the Consul says that "their business was not especially prosperous

during the years immediately preceding the war. The high American import duties of 1907 had practically put a stop to remunerative exportation to the United States. The tariff act of 1913 seemed to promise new life to the export business, and during the first half of 1914 the exports of woolen goods as declared at this consulate were greatly in excess of those of the years immediately preceding.

"The outbreak of the war made exporting impossible and the mills at once engaged in the manufacture of supplies for the military forces. Good profits were realized by many concerns. Firms that had not earned a dividend for some years announced net earnings ranging from 8 to 20 per cent after deducting from their gross receipts many items, such as reserve funds, cost of adapting their plants to the manufacture of army supplies, large contributions to charities and Red Cross funds, and sums for the relief of their employees. The firms most fortunately situated as to earnings are those that found themselves in possession of a large stock of raw material at the outbreak of the war."

As to the cotton goods manufacture, the situation "is less favorable from the point of view of dividends earned. The concerns are almost entirely dependent upon military needs, raw material, and yarns for ordinary products being released only when absolutely necessary. Early in 1915 the mills were busy on large government orders, but gradually, the most urgent needs having been supplied, orders fell off and the concerns were less steadily occupied. Early in the summer the regulations forbidding the manufacture of many lines of goods for civilian use went into effect. In the fall the military requirements for the winter gave increased occupation.

"Production is now limited chiefly to bandaging material, linings, stuff for underwear, shirting, ticking, bagging, drills, and cotton and half-wool blankets. The cost of raw cotton and yarns is constantly increasing. However, fair dividends have been earned by a number of firms; 8 to 10 per cent seems the rule for the larger and better situated ones. Smaller concerns and such as are not adapted to the production of military supplies are in an unfavorable position. There is no lack of demand on the part of the civilian population for their usual line of goods, but the regulations do not permit their unrestricted manufacture."

On the important subject of a supply of labor, Consul Seltzer

at Breslau states that the Breslau consular district on the eastern frontier, "although in 1915 not directly affected by the war, has experienced an economic drain of resources and men equal perhaps to that of any portion of the actual war zone.

"There has been a severe scarcity of labor due to the large number of regular employees who were requisitioned for military service. This is especially true of the textile and porcelain industries, most of whose products were formerly exported. The iron and steel industries, on the other hand, have found means of increasing their personnel. This was done, first, by requisitioning large numbers of Russian prisoners of war and, second, by importing labor from the occupied portions of Russian Poland.

"Large numbers of men were withdrawn from various manufacturing establishments and their places were filled with women and girls. These same men were then given employment in the iron and steel industries and in machine shops. At the beginning of 1916 there was still a great demand for male labor of all classes.

"In order to meet changed conditions it was sometimes necessary to change the entire equipment of manufacturing plants; in other cases extensions were built to accommodate a new branch of the industry; in still other cases it was simply a matter of small details in the construction of machinery and parts. This substitution extended even to the textile industries, and factories formerly employed on cotton and linen goods are now making woolen cloths, tarpaulins, and burlap. But the most surprising change of all, perhaps, is the substitution of cellulose and wood-pulp products for cotton goods. Inventions resulting from the war may play an important role in the markets of the world after peace has been established."

To sum up, these consular reports, while revealing a severe strain on German trade and industry, do not disclose any signs of demoralization or prostration. German domestic business, though hampered by war conditions, goes earnestly on. There are profits in manufacturing; there are higher wages for employees. Agriculture is experiencing abnormal prosperity because of the demand for all kinds of native foodstuffs. If an industrial collapse or anything approaching it is impending in the German Empire the American consular reports do not forecast it.

DECISIONS OF THE TREASURY DEPARTMENT ON THE WOOLEN TARIFF.

(T.D. 36403 — G.A. 7906.)

Teazled cloth not pile fabrics.

Upon the common meaning of the terms used, no different commercial meaning having been established, certain woven fabrics in chief value of Angora goat hair, having a teazled surface imitating plush, are not properly classifiable under paragraph 309, tariff act of 1913, as "plushes, velvets, and all other pile fabrics" at 45 per cent ad valorem, but are dutiable as "cloth and all manufactures of every description made by any process, wholly or in chief value of the hair of the Angora goat" at 40 per cent ad valorem under paragraph 308.

United States General Appraisers, New York, May 12, 1916.

In the matter of protests 770381, etc., of C. A. Haynes & Co. et al. against the assessment of duty by the collector of customs at the port of New York.

[Reversed.]

Brooks & Brooks (*Frederick W. Brooks, jr., of counsel*), for the importers.

Bert Hanson, Assistant Attorney General (*Charles D. Lawrence, Leland N. Wood, and Harry M. Farrell*, special attorneys), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers).

BROWN, *General Appraiser*: The merchandise is stated in the appraiser's reports to be woven fabrics in chief value of Angora goat hair, and to have a teazled surface imitating plush. The examiner being of the opinion that they were commercially known as plushes, returned the goods as plushes composed in chief value of the hair of the Angora goat at 45 per cent under paragraph 309, act of 1913, reading:

309. Plushes, velvets, and all other pile fabrics, cut or uncut, woven or knit, whether or not the pile covers the entire surface, made wholly or partly of the hair of the Angora goat, alpaca, or other like animals, and articles made wholly or in chief value of such plushes, velvets, or pile fabrics, 45 per centum ad valorem.

Several claims are made in the protests, but the one relied on is that under paragraph 308, reading:

308. Cloth and all manufactures of every description made by any process, wholly or in chief value of the hair of the Angora goat, alpaca, and other like animals, not specially provided for in this section, 40 per centum ad valorem.

The testimony shows that the goods in question (Exhibits 1, 2, and collective Exhibit 3) are manufactured by a so-called teazling process, which roughens the surface of the cloth after it is woven and gives a soft effect, which the Government claims makes it a plush, while the importers claim, on the other hand, that it does not have that effect.

The commercial testimony is very conflicting, most of the Government witnesses testifying that it is bought and sold as a plush, and so denominated in the trade, while a number of equally credible witnesses presented by the importers testified that it is never denominated as a plush in the trade.

Assuming, but not deciding, that the terms "plushes" and "pile fabrics," as used in this paragraph, are not terms of description merely and are subject to commercial designation, we hold in the first place, in view of this conflicting testimony, that no definite, uniform, and general designation of these fabrics is made out so as to include them within the term "plushes."

On this record, therefore, resort must be had to the common meaning to determine the issue.

"Pile fabrics" is a general term for certain material, which includes as one of its subdivisions pluses. See opinion of Judge Montgomery in *Knauth, Nachod & Kuhne v. United States* (6 Ct. Cust. Appl., 128; T.D. 35389) and definitions quoted therein.

It is interesting to note that all the commercial witnesses on both sides substantially agree that this is so, which we presume amounted to a concession on the part of all of them that the meaning in the trade did not differ from the common meaning in this respect.

In the case of *M. J. Corbett & Co.*, G.A. 7572 (T.D. 34545), Judge Cooper, speaking for Board 2, said:

From an examination of the authorities on textile weaving it appears that in the weaving of every pile fabric one series of threads, either warp or filling, is employed for producing the ground of the fabric, while a second series forms the pile; so that two distinct systems of warp or of filling threads are always necessary in the manufacture of such goods.

The reason for this is that, in order to produce the effect known as the pile fabric, including velvets, pluses, and astrakhans, this extra and distinct set of warp or filling threads is required.

This record shows clearly that the goods in question were not produced by any such method, but on the contrary, as before stated, the teazling or gigging process is applied to the surface of what was already a completely woven cloth.

We therefore hold that the goods in question are not pluses within the common meaning of that term in paragraph 309.

The Government attorney claims that the burden was upon the importers to show that the goods in question were not commercially

plushes in view of the fact that they first went into the question of commercial definition, and there being a conflict, they have not sustained that burden. With this contention we cannot agree, because in the absence of commercial meaning otherwise, the goods in question are clearly not plushes within the common meaning of that term, and in order to so classify them as plushes, the Government would have to show a uniform, definite, and general meaning in the trade designating them as such, which, in our opinion, they have failed to do.

And this legal situation cannot be changed and the burden of proof shifted because the importers happened to go into the question of commercial meaning with their witnesses when they had them on the stand to show the characteristics of the cloth and its method of manufacture, instead of reserving such questions for rebuttal.

We therefore hold that the merchandise is properly dutiable under paragraph 308, as claimed. The protests are sustained and the decision of the collector reversed.

(T.D. 36420 — G.A. 7909.)

Pile fabrics, appliquéd.

Pile fabrics made from silk or Angora goat hair, and on the surface of which are superimposed imitation ermine tails at regular intervals to imitate real ermine, are properly dutiable at 60 per cent ad valorem under paragraph 358, tariff act of 1913, as appliquéd articles of "whatever yarns, threads, or filaments composed," rather than as pile fabrics composed in chief value of silk or hair of the Angora goat.—G.A. 4181 (T.D. 21375) *United States v. Hamburger Levine Co.* (5 Ct. Cust. Apps., 217; T.D. 34382), and *Loewenthal v. United States* (6 Ct. Cust. Apps., 209; T.D. 35464) cited and followed.

United States General Appraisers, New York, May 19, 1916.

In the matter of protest 775664, etc., of R. F. Downing & Co. against the assessment of duty by the collector of customs at the port of New York.

[Affirmed.]

Walden & Webster (*Henry J. Webster* of counsel), for the importers.

Bert Hanson, Assistant Attorney General (*Martin T. Baldwin* and *Harry M. Farrell*, special attorneys), for the United States.

Before Board 2 (FISCHER, HOWELL, and COOPER, General Appraisers; COOPER, G.A., not participating).

HOWELL, General Appraiser: The merchandise is described by the appraiser in his answer to the protests as follows:

The merchandise consists of silk plush, 48 inches in width, made in imitation of ermine, having appliquéd thereon, respectively, about 5 or 7 inches apart, imitation tails of fur skins. It was returned for duty as appliquéd silk fabrics at 60 per cent ad valorem (par. 358, act of 1913). And the same class of merchandise composed in chief value of Angora goat hair, appliquéd in the same manner, returned at the same rate, under the same paragraph.

The testimony offered by the importers, and the samples introduced in evidence by them (Exhibits 1, 2, and 3), confirm the report of the appraiser as to the character of the merchandise.

The only issue in the case is whether or not the merchandise is appliquéd. It was so classified by the collector and was assessed for duty at the rate of 60 per cent ad valorem under the provision for appliquéd articles in paragraph 358, tariff act of 1913. The importers claim that it is not appliquéd, and that that portion of it which is composed in chief value of silk is dutiable as silk pile fabrics at the rate of 50 per cent ad valorem under paragraph 314, while that portion which is composed in chief value of the hair of the Angora goat is dutiable at the rate of 45 per cent ad valorem under the provision in paragraph 309 of said act for "pile fabrics . . . made wholly or partly of the hair of the Angora goat."

It appears from the testimony and the exhibits that the merchandise consists of plain pile fabrics in the piece, having imitation ermine tails superimposed thereon at regular intervals to imitate real ermine. The so-called ermine tails are manufactured independently of the pile fabric and are laid flat on the surface of the cloth, one end of the tail entering the body of the cloth through a hole made therein and being firmly sewed to the under side of the cloth, while the other end of the tail is held in place by being stitched to the face of the cloth.

In Thorp's case, G.A. 4481 (T.D. 21375), this board, in defining the meaning of the word "appliquéd," said:

The general definition is, "ornamentation with a pattern which has been cut out of another color or stuff applied or transferred to a foundation."

This definition was approved and adopted by the Court of Customs Appeals in *United States v. Hamburger Levine Co.* (5 Ct. Cust. Apps., 217; T.D. 34382) and *Loewenthal v. United States* (6 Ct. Cust. Apps., 209; T.D. 35464).

We are of the opinion that the merchandise here in question falls within that definition of the word "appliquéd." It consists of finished pile fabrics on which imitation ermine tails have been superimposed, and the fabric, which was plain before the application of the tails, has been ornamented and made to imitate real ermine. We have, then, the union of two independent fabrications, one being applied to the other for ornamentation, and that constitutes appliquéd.

The protests are accordingly overruled.

(T.D. 36466.)

Angora goatskins.

The hair on all kinds of Angora goatskins will continue to be assessed with duty at the rate of 15 per cent ad valorem under paragraph 305, tariff act of 1913.

TREASURY DEPARTMENT, June 6, 1916.

SIR: I have to call your attention to the decision of the Board of United States General Appraisers of March 24, 1916, G.A. 7878 (T.D. 36271), wherein certain so-called Cape Angora goatskins, the hair on which had been assessed with duty at the rate of 15 per cent ad valorem under paragraph 305, of the tariff act of October 3, 1913, were held by the board to be free of duty.

Owing to the unsatisfactory nature of the record in the case, no appeal was taken from the decision in question. The Assistant Attorney General, however, has advised the department that a later case was taken up in which it appears there is a more complete record.

Pending a judicial determination of the question, you will continue to assess duty on the hair on all Angora goatskins at the rate of 15 per cent ad valorem under paragraph 305 of the tariff act of October 3, 1913.

Respectfully,

W.M. P. MALBURN,

(105140.)

Assistant Secretary.

COLLECTOR OF CUSTOMS, Philadelphia, Pa.

(T.D. 36486 — G.A. 7919.)

Machine blankets.

Endless woolen blankets used on calico-printing machines are not within the term "blankets" as used in paragraph 289, act of 1913, but were properly classified as manufactures of wool under paragraph 288.

United States General Appraisers, New York, June 9, 1916.

In the matter of protests 765909, etc., of F. T. Walsh against the assessment of duty by the collector of customs at the port of Boston.

[Affirmed.]

Blodgett, Jones, Burnham & Bingham (Frederick W. Eaton of counsel), for the importer.

Bert Hanson, Assistant Attorney General (*Martin T. Baldwin* and *Charles D. Laurence*, special attorneys), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers).

BROWN, General Appraiser: The merchandise, the subject of these protests, is described by the appraiser in his report as "endless woolen blankets for use on calico-printing machines." The collector classified

the goods as manufactures of wool at 35 per cent under paragraph 288, act of 1913, and the protestant claims they are properly dutiable as blankets under paragraph 289, at 25 per cent.

The following facts appear from the testimony: The articles are made of woolen material in the form of a belt—that is, woven in a long, endless piece—and are used on calico-printing machines to cover the lapping and also as a cushion. The lapping is a fabric, linen warp and wool filling, which is wound around the steel cylinder of the printing machine to form a cushion.

As to commercial designation, one witness for the importer testified the articles were known in the trade as endless woolen blankets; another that they were called woolen blankets, printers' blankets; a third, woolen blankets, endless printers' blankets.

On behalf of the Government one witness testified as to the difference between these so-called machine blankets and the ordinary bed blanket, in the weave, in the weight of the material, in the degree of the felting process, and in texture. Also in his trade experience dealing in blankets, he had never seen articles like those in question. He had dealt in such articles as pressed blankets, or woven pressed felts. Another witness testified that the term "blankets" in the trade meant various sorts of coverings of blanket material used for bodily warmth; that the article in question was not included in the class of blankets; that it has none of the characteristics of what the trade calls a blanket, except it is made of wool. It is much heavier in weight. A third witness said they were known in the trade as "pressed blankets."

The testimony is too indefinite to establish a controlling commercial meaning of the term "blankets" different from the ordinary meaning. The use of the word "blanket" in connection with some qualifying word like "endless woolen," "machine," or "pressed," describing some particular article in relation to its mechanical use is insufficient to enlarge the scope of the term used in the statute.

We find, therefore, that the articles in question are not blankets within the common and ordinary meaning of that term. They are articles, which, although made from what might possibly be called blanket material, are especially designed and manufactured for use in calico printing, and we think it is clear that Congress in enacting the provision for "blankets" never intended to include articles described as machine blankets, printing blankets, mining blankets, etc., used in connection with some mechanical process, and which have no relation to blankets as ordinarily understood. We think the term in its ordinary significance must be held at least to be limited to bed blankets and other blankets used for bodily protection, that is, to keep out the cold.

We accordingly hold that the merchandise is properly dutiable under paragraph 288, as classified by the collector, and overrule the protests.

ABSTRACTS OF OTHER BOARD CASES.

No. 39475.—Protests 763405, etc., of Redden & Martin (New York).

WOOL OLEINE—OILS.—Merchandise classified as distilled oils at 20 per cent ad valorem under paragraph 46, tariff act of 1913, and as acid at 15 per cent under paragraph 1, invoiced as “wool oleine” and “oleine, about 40 to 45 per cent saponifiable,” is claimed free of duty under paragraph 498 as leather dressing oil.

Opinion by McCLELLAND, G.A. The commodities in question are used to mix with other oils to manufacture an oil for stuffing or dressing leather, and also for making soap. They were held free of duty under paragraph 498. G.A. 7812 (T.D. 35894) and G.A. 7870 (T.D. 36218) followed.

No. 39521.—Protest 781899-5996 of May & Ellis Co. (New Orleans).

WOOL CLOTH.—Cloth classified as composed in chief value of the hair of the Angora goat, at 40 per cent ad valorem under paragraph 308, tariff act of 1913, is claimed dutiable as wool cloth at 35 per cent under paragraph 288.

Opinion by BROWN, G.A. From the report of the analyst the cloth in question was found to be wool chief value. It was held dutiable under paragraph 288, as claimed.

No. 39534.—Protest 744074 of Stickley Bros. Co. (Detroit).

ANGORA GOATSKINS.—The hair on merchandise invoiced as Angora goatskins, classified at 15 per cent ad valorem under paragraph 305, tariff act of 1913, is claimed free of duty under paragraph 650.

Opinion by McCLELLAND, G.A. It was found that the processes used for the removal of the hair from the skins were such as to reduce its value as a marketable product. There being no dispute that the merchandise is Angora goat hair, it was held properly classified under paragraph 305.

No. 39535.—Protest 775157 of John Shillito Co. (Cleveland).

RUGS—SAMPLES.—Samples of rugs returned as parts of carpets woven whole for rooms, classified at 50 per cent ad valorem under paragraph 300, tariff act of 1913, are claimed free of duty as samples of no commercial value.

Opinion by BROWN, G.A. It was found that the merchandise is manufacturers' samples showing qualities and patterns from which to take orders, and that they are disposed of at a comparatively small price. Having a commercial value, they were held dutiable, as classified. *Badische v. United States* (4 Ct. Cust. Apps., 374; T.D. 33535) cited.

No. 39555. — Protest 779972 of Mrs. N. J. Walsh (Cleveland).

WOOL WEARING APPAREL — APPLIQUÉD ARTICLES. — A gown made of two colors of woolen cloth so arranged that the red cloth formed a background for the trimming of braid and gold thread which was sewed upon the gown in an ornamental manner, classified as appliquéd wearing apparel at 60 per cent ad valorem under paragraph 358, tariff act of 1913, is claimed dutiable at 35 per cent under paragraph 291.

Opinion by HAY, G.A. The ornamentation in question not being cut out of another color or stuff applied or transferred to a foundation, but being a braid sewed directly upon the gown, was held not appliquéd within the meaning of that term in paragraph 358. The gown in question was held dutiable under paragraph 291, as claimed. G.A. 4481 (T.D. 21375), *United States v. Hamburger* (5 Ct. Cust. Appl., 217; T.D. 34382), and *Loewenthal v. United States* (6 Ct. Cust. Appl., 209; T.D. 35464) followed.

No. 39562. — Protest 786278 of David T. McKelvey (New York).

AXMINSTER CARPETING. — Merchandise invoiced as Chippendale Axminster carpeting, classified as Axminster rugs at 50 per cent ad valorem under paragraph 300, tariff act of 1913, is claimed dutiable as Axminster carpeting at 35 per cent under paragraph 293.

Opinion by BROWN, G.A. On the authority of G.A. 7868 (T.D. 36216) the merchandise in question was found to be Axminster carpeting and held dutiable under paragraph 293.

No. 39563. — Protest 782261 of Wm. Anderson & Co. (New York).

FLANNELS. — Certain merchandise classified under paragraph 290, tariff act of 1913, is claimed dutiable as flannels under paragraph 289.

Opinion by BROWN, G.A. The commodity in question was held dutiable as flannels under paragraph 289, as claimed. Abstract 39393 followed.

No. 39584. — Protests 765778, etc., of Kronfeld, Saunders & Co. (New York).

WEARING APPAREL IN PART OF BRAID AND ORNAMENTS. — Cotton, silk, or wool wearing apparel classified as articles in part of braid, ornaments, or netting, and as embroidered or appliquéd wearing apparel, at 60 per cent ad valorem under paragraph 358, tariff act of 1913, is claimed dutiable under paragraph 256, 266, 291, 288, 318, 317, or 333.

Opinion by COOPER, G.A. It was found that the merchandise consists of wool trousers, and silk, cotton, or wool dresses trimmed with braid, ornaments, or made in part of netting, silk dresses having a corsage of roses and foliage sewed thereon at the waist line, and silk dresses trimmed with jet and crystal trimmings. On the authority of G.A. 7597 (T.D. 34755), Abstract 38637, *United States v. Snow's United*

States Sample Express Co. (6 Ct. Cust. Appl., 120; T.D. 35388), and *Loewenthal v. United States* (6 Ct. Cust. Appl., 209; T.D. 35464), the merchandise was held dutiable as silk, cotton, and wool wearing apparel under paragraphs 317, 256, and 291, respectively. One protest not filed by the owner, importer, consignee, or agent was dismissed.

No. 39585. — Protest 775313 of Thos. Meadows & Co. (New York).

TUCKED SHIRT BOSOMS — WOOL WEARING APPAREL. — Merchandise classified as wearing apparel at 60 per cent ad valorem under paragraph 358, tariff act of 1913, is claimed dutiable as cotton or wool wearing apparel at 30 per cent under paragraph 256 or at 35 per cent under paragraph 291.

Opinion by COOPER, G.A. Tucked shirt bosoms and slippers composed in chief value of cotton were held dutiable as cotton wearing apparel at 30 per cent under paragraph 256. Wool clothing trimmed with braid and slippers in chief value of wool were held dutiable as wearing apparel composed wholly or in chief value of wool at 35 per cent under paragraph 291. G.A. 7613 (T.D. 34823), affirmed in *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., 120; T.D. 35388) and G.A. 7597 (T.D. 34755) followed.

No. 39671. — Protest 771453 of Wm. Wiese & Co. (New York).

WOOL LACES — AUTOMOBILE LACES. — Merchandise returned by the appraiser as automobile laces or trimmings was classified under paragraph 383, tariff act of 1909, and is claimed dutiable at 60 per cent ad valorem under paragraph 358, tariff act of 1913.

Opinion by BROWN, G.A. It was found that the provision for automobile laces in paragraph 358, tariff act of 1913, is more specific than the provision for laces and trimmings of wool in paragraph 383, tariff act of 1909. Protest sustained. G.A. 7577 (T.D. 34599) and G.A. 7578 (T.D. 34600) followed.

No. 39673. — Protest 769710 of Surpass Leather Co. (New York).

CASHMERE GOAT HAIR. — The appraiser reports that the merchandise "consists of Cashmere goat hair, the fleece of which is of like kind with the fleece of the Angora goat." It was classified at 15 per cent ad valorem under paragraph 305, tariff act of 1913, and is claimed free of duty as hair of other animals under paragraph 503, or as wool under paragraph 650.

Opinion by BROWN, G.A. It was found that the merchandise consists of the hair of the Cashmere goat and that it is similar to the hair of the Angora goat. The provision in paragraph 305 was held to control over the general provision for wool in paragraph 650.

No. 39700.—Protest 791214 of J. J. Gavin & Co. (New York).

FLANNELS.—Merchandise classified as wool cloth or dress goods at 35 per cent ad valorem under paragraph 288 or 290, tariff act of 1913, is claimed dutiable at 25 or 30 per cent as flannels under paragraph 289.

Opinion by BROWN, G.A. The merchandise in question was held dutiable as flannels, as claimed, under paragraph 289. G.A. 7772 (T.D. 35708) followed.

No. 39705.—Protest 761522 of C. J. Tower (Buffalo).

CASHMERE YARN.

BROWN, *General Appraiser*: The merchandise was classified under paragraph 307, act of 1913, providing for "yarns made of the hair of the Angora goat, alpaca, and other like animals, 25 per centum ad valorem." The claim is that it is dutiable under paragraph 287 at 18 per cent as "yarns made wholly or in chief value of wool."

From the record the merchandise appears to be yarn made from the hair of the Cashmere goat.

In the case of Sturzburg, Schell & Co., G.A. 4965 (T.D. 23179), Judge Somerville said, in classifying wool or hair of the Cashmere goat :

We are of opinion that wool or hair of this kind falls within the enumeration stated in said paragraph 350 (act of 1897) describing "hair of the camel, Angora goat, alpaca, and other like animals."

The rule governing the classification of such hair or wool and manufactures therefrom under the act of 1913 was stated by Judge Hay in the case of Ringk & Co., G.A. 7649 (T.D. 34997), as follows :

Where Congress has with such particularity provided a duty upon the hair of the Angora goat and various articles manufactured therefrom, as has been done in paragraphs 305, 306, 307, 308, and 309, all products of the hair of the Angora goat not included in those paragraphs come, we think, under the general provision for wool.

The same rule, of course, applies to the hair of the Cashmere goat.

This decision was affirmed by the Court of Customs Appeals in Crimmins *v.* United States (6 Ct. Cust. Apps., 137; T.D. 35392), wherein Judge De Vries said :

Moreover, paragraphs 305, 306, 307, and 308 denounce particular rates of duty upon the hair of the Angora and alpaca goats. Congress has been precisely careful in this schedule to levy a duty upon every seemingly possible condition of the hair of the Angora goat. Thus paragraph 305 levies a duty upon the hair on the skin; 306 on tops made from the hair; 307 on the yarn made from the hair; 308 on all manufactures of every description made by any process wholly or in chief value of the hair of the Angora goat.

As the merchandise in question, Cashmere yarn, is specially provided for in paragraph 307, it cannot come under the provision for wool yarn in paragraph 287. Protest overruled.

No. 39707.—Protests 774925, etc., of Abraham & Straus et al. (New York).

FLANNELS.—Merchandise invoiced as wool flannels, silk-stripe gauze flannel, all-wool gauze flannel, figured all-wool gauze flannel, silk-stripe embroidered gauze flannel, white silk-stripe gauze flannel, white all-wool gauze flannel, white Roxburghe flannel, Roxburghe flannel, silk-stripe wool gauze, Perfekta, and S.S.R. taffeta, classified as wool cloth or wool dress goods at 35 per cent ad valorem under paragraph 288 or 290, tariff act of 1913, is claimed dutiable as flannels under paragraph 289.

Opinion by BROWN, G.A. On the authority of G.A. 7772 (T.D. 35703) the merchandise in question was held dutiable as flannels under paragraph 289, as claimed.

No. 39759.—Protest 788647 of R. Koehler (New York).

WOVEN FABRICS, WOOL CHIEF VALUE.—Woven fabrics of silk and wool classified as silk chief value at 45 per cent ad valorem under paragraph 318, tariff act of 1913, are claimed to be composed in chief value of wool, dutiable at 35 per cent under paragraph 290.

Opinion by HOWELL, G.A. It was found that wool is the component material of chief value in the fabrics in question, and they were held dutiable under paragraph 290, as claimed.

No. 39780.—Protests 769682, etc., of John Whytlaw Co. (New York).

DRESS GOODS OF SILK OR WOOL.—Dress goods classified as silk chief value at 45 per cent ad valorem under paragraph 318, tariff act of 1913, are claimed to be composed in chief value of wool, dutiable at 35 per cent under paragraph 290.

Opinion by HOWELL, G.A. Goods found to be wool chief value were held dutiable under paragraph 290. Protests overruled as to those items found to be in chief value of silk.

No. 39797.—Protest 788207 of Thomas Meadows & Co. (New York).

SLIPPERS.—Slippers composed in chief value of wool, silk, or cotton, classified as wool wearing apparel, appliquéd, or as wearing apparel in part of ornaments, under paragraph 358, tariff act of 1913, at 60 per cent ad valorem, are claimed dutiable at 35 per cent under paragraph 291, or 30 per cent under paragraph 256.

Opinion by HOWELL, G.A. Upon stipulation of counsel the merchandise classified as appliquéd was held dutiable as wool wearing apparel under paragraph 291. *United States v. Hamburger* (5 Ct. Cust. Appls., 217; T.D. 34382) followed. On the authority of *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appls., 120; T.D. 35388), affirming G.A. 7613 (T.D. 34823), such slippers as are

composed in chief value of wool were held dutiable as wool wearing apparel under paragraph 291, those in chief value of cotton under paragraph 256, and those in chief value of silk under paragraph 317. Protest sustained in part.

No. 39810. — Protests 749693, etc., of B. Altman & Co. (New York).

WEARING APPAREL IN PART OF ORNAMENTS. — Articles of wearing apparel classified as in part of ornaments, netting, tuckings, or trimmings at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable at lower rates under various paragraphs.

Opinion by HOWELL, G.A. Articles found to be composed in chief value of cotton were held dutiable at 30 per cent under paragraph 256, those in chief value of silk at 50 per cent under paragraph 317, and others in chief value of wool at 35 per cent under paragraph 291. G.A. 7613 (T.D. 34823), affirmed in *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., 120; T.D. 35388), followed. G.A. 7641 (T.D. 34927) followed as to protest fee.

No. 39841. — Protest 782093 of Kaskel & Kaskel, and protests 783171, etc., of Kronfeld, Saunders & Co. et al. (New York).

WEARING APPAREL IN PART OF NETTING OR TUCKINGS. — Articles of wearing apparel in part of ornaments, braid, netting, or tuckings, classified at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable at various lower rates.

Opinions by HOWELL, G.A. The articles found to be composed in chief value of cotton were held dutiable at 30 per cent under paragraph 256, those in chief value of wool at 35 per cent under paragraph 291, and silk chief value at 50 per cent under paragraph 317. *United States v. Snow's United States Sample Express Co.* (6 Ct. Cust. Appl., 120; T.D. 35388), affirming G.A. 7613 (T.D. 34823), followed.

No. 39843. — Protest 761474 of John Darling & Co. (New York).

BOCKINGS — WOOL CLOTH — GREEN BAIZE.

BROWN, General Appraiser: The merchandise here, classified as wool cloth at 35 per cent under paragraph 288, act of 1913, is claimed to be dutiable under paragraph 301 as "bockings." Said paragraph reads:

301. Druggets and bockings, printed, colored, or otherwise, 20 per cent ad valorem.

The merchandise is imported in various widths — 36, 45, 54, and 72 inches — and the average length of the pieces is about 30 yards.

The importer testified that the term "druggets and bockings" includes —

Fabrics woven of coarse wool, heavy grades for covering carpets and for stages and lighter weight grades for covering tables, such as card tables and glove counters in stores, and it is also used for swinging doors.

He further stated that the chief use of the merchandise in question was for covering tables. On cross-examination he admitted that the merchandise was commonly known in this country as green woven baize, or bocking.

The testimony is legally insufficient to establish a commercial definition of the term "bockings," and the dictionary definitions of the common meaning of the term are not sufficiently clear to include this article.

The evidence presented being insufficient to overcome the presumption in favor of the correctness of the classification, the protest must be overruled.

No. 39841.—Protest 770814-55826 of Bernard, Judae & Co. (Chicago), and protest 751657 of L. Bachman & Co., and protest 769138 of W. Bianchi & Co. (New York).

FLANNELS.—So-called shirting and tennis flannels, not used in the manufacture of underwear, classified as wool cloth at 35 per cent ad valorem under paragraph 288, tariff act of 1913, are claimed dutiable as flannels composed wholly or in chief value of wool under paragraph 289.

Opinions by BROWN, G.A. On the authority of G.A. 7772 (T.D. 35703) the flannels in question were held dutiable under paragraph 289, as claimed.

No. 39886.—Protests 761582, etc., of R. H. Macy & Co. (New York).

AXMINSTER CARPET—RUGS.—The appraiser reports that the merchandise consists of "one-piece seamless rugs made on the Axminster carpet loom." It was classified as Axminster rugs at 50 per cent ad valorem under paragraph 300, tariff act of 1913, and is claimed dutiable as Wilton carpet or carpeting at 30 per cent under paragraph 294.

Opinion by BROWN, G.A. It was found that the merchandise in question is made on a Jacquard loom and is Wilton and not Axminster. It was held dutiable under paragraph 294, as claimed.

No. 39888.—Protests 745716, etc., of F. B. Vandegrift & Co. (Philadelphia).

IMITATION ASTRAKHAN—PILE FABRICS.—The appraiser reports the merchandise in question to be wool astrakhan. It was classified as wool pile fabrics at 40 per cent ad valorem under paragraph 288, tariff act of 1913, and is claimed dutiable as wool cloth at 35 per cent under the same paragraph.

Opinion by BROWN, G.A. The imitation astrakhan in question was held properly classified at 40 per cent under paragraph 288, Knauth v. United States (6 Ct. Cust. Apps., 128; T.D. 35389).

No. 39914. — Protests 750265, etc., of W. H. Stiner & Son (New York).

ASTRAKHAN — PILE FABRICS.

BROWN, General Appraiser: This is a case brought to determine whether certain so-called astrakhans or caraculs were properly classified, so far as they were made from mohair, at 45 per cent under paragraph 309, act of 1913, and so far as they are made from wool, at 40 per cent under paragraph 288 of said act as pile fabrics, cut or uncut.

The importers claim that the goods should be classified under paragraph 288, at 35 per cent, as wool cloth, and under paragraph 308, at 40 per cent, as cloth made of the hair of the Angora goat, and he submits his case upon the samples introduced at the hearing and upon a statement of the appraiser in his report that the fabrics were similar to certain goods held not to be commercially pile fabrics by the Circuit Court of Appeals on appeal from G.A. 1020. (See T.D. 14120.)

The merchandise in question, known as astrakhans, is what may be called an uncut pile. The testimony and samples show that it is exactly the same class of goods which were held to be within the common meaning of the term "pile fabrics" in the case of *Knauth, Nachod & Kuhne v. United States* (6 Ct. Cust. Appls., 128; T.D. 35389), wherein the Court pointed out that in the later acts Congress had clearly intended to cover by the term "pile fabrics" both the cut and the uncut pile and held such merchandise to be pile fabrics.

The government, over the objection of the importers, introduced testimony in an effort to show that the commercial meaning of the term "pile fabrics" included the fabrics here in controversy. This testimony fails to show any commercial meaning different from the common meaning, or to establish a definite, uniform and general commercial meaning of the term "pile fabrics." For this reason, even if inadmissible, it was of no damage to the importers in view of the fact that the decision of the Court of Customs Appeals above mentioned covered the issue here involved, the merchandise being of the same character.

The protests are therefore overruled, considering only the common meaning of the term, and the classification as pile fabrics is affirmed.

The further claim in the protests for 5 per cent discount under section 4, paragraph J, sub-section 7, is unsupported by evidence and no reference was made thereto at the trial, this claim is therefore overruled. Protests overruled in all respects.

No. 39918. — Protest 794236 of Isaacs, Vought & Co. (New York).

FLANNELS. — Merchandise classified as wool cloth at 35 per cent ad valorem under paragraph 288, tariff act of 1913, is claimed dutiable as flannels under paragraph 289.

Opinion by Brown, G.A. The merchandise was found to be flannels composed wholly or in chief value of wool and was held dutiable under paragraph 289, as claimed.

No. 39920. — Protest 765561 of Morey & Co. (Boston).

MACHINE BLANKETS. — Wool blanket material 6 to 10 feet wide, made endless like a belt, for use on machines in paper mills, classified as manufactures of wool at 35 per cent ad valorem under paragraph 288, tariff act of 1913, is claimed dutiable under the provision for blankets in paragraph 289 at 25 per cent.

BROWN, General Appraiser: . . . From an examination of the record and sample we conclude that these articles are not blankets within the ordinary meaning of that term. They are articles which, although made from what might be called blanket material, are specially designed and manufactured for use in paper making, and we do not think that Congress in enacting the provision for "blankets" intended to include articles which may be described as machine blankets, printing blankets, mining blankets, and which are designed for use in paper machines, in printing machines, or in mining operations. The provision for blankets must be held to be limited at least to bed blankets and blankets used for bodily protection; that is, to keep out the cold, although not on a bed. See G.A. 7919 (T.D. 36486) covering protest 765909, decided June 9, 1916.

We therefore hold the merchandise properly dutiable as classified and overrule the protest.

No. 39921. — Protest 764341 of Massee & Co. (New York).

TEAZLE CLOTH — PILE FABRICS. — Cloth subjected to the teazling process, which roughens the surface and gives a soft effect, classified as pile fabrics at 40 per cent ad valorem under paragraph 288, tariff act of 1913, is claimed dutiable as wool cloth at 35 per cent under the same paragraph.

Opinion by **BROWN, G.A.** On the authority of G.A. 7906 (T.D. 36403) the goods in question were found not to be pile fabrics within the common meaning of that term. They were held dutiable as wool cloth under paragraph 288.

No. 39922. — Protest 763667 of F. B. Vandegrift & Co. (Philadelphia).

ASTRACHAN — PILE FABRICS. — Merchandise classified as a mohair pile fabric at 45 per cent ad valorem under paragraph 309, tariff act of 1913, is claimed dutiable as wool cloth at 35 per cent under paragraph 288.

Opinion by **BROWN, G.A.** The merchandise was found to be of the same character as the uncut pile fabrics or astrakhan passed upon in *Knauth v. United States* (6 Ct. Cust. Appls., 128; T.D. 35389) and held to be within the common meaning of the term "pile fabrics." Protest overruled.

QUARTERLY REPORT OF THE BOSTON WOOL MARKET FOR
APRIL, MAY, JUNE, 1916, AND JUNE, 1915.

DOMESTIC WOOLS. (GEORGE W. BENEDICT.)

	1916.			1915.
	April.	May.	June.	June.
OHIO, PENNSYLVANIA, AND WEST VIRGINIA.				
(WASHED.)				
XX and above	34 @ 35	34 @ 35	34 @ 35	31 @ 32
X	31 @ 32	31 @ 32	31 @ 32	28 @ 29
Blood	41 @ 42	41 @ 42	41 @ 42	37 @ 38
"	42 @ 43	42 @ 43	42 @ 43	36 @ 37
"	42 @ 43	42 @ 43	42 @ 43	36 @ 37
Fine Delaine	39 @ 40	39 @ 40	39 @ 40	33 @ 34
(UNWASHED.)				
Fine	30 @ 31	30 @ 31	30 @ 31	25 @ 26
Blood	37 @ 38	37 @ 38	37 @ 38	33 @ 34
"	39 @ 40	39 @ 40	39 @ 40	34 @ 36
"	38 @ 39	38 @ 39	38 @ 39	34 @ 36
Fine Delaine	33 @ 34	33 @ 34	33 @ 34	28 @ 29
MICHIGAN, WISCONSIN, NEW YORK, ETC.				
(UNWASHED.)				
Fine	27 @ 28	27 @ 28	27 @ 28	23 @ 24
Blood	35 @ 36	35 @ 36	35 @ 36	31 @ 32
"	39 @ 40	39 @ 40	39 @ 40	32 @ 33
"	38 @ 39	38 @ 39	38 @ 39	32 @ 33
Fine Delaine	30 @ 31	30 @ 31	30 @ 31	26 @ 27
KENTUCKY AND INDIANA.				
(UNWASHED.)				
Blood	40 @ 41	40 @ 41	40 @ 41	34 @ 35
"	39 @ 40	39 @ 40	39 @ 40	35 @ 36
Braid	33 @ 34	33 @ 34	33 @ 34	30 @ 32
MISSOURI, IOWA, AND ILLINOIS.				
(UNWASHED.)				
Blood	38 @ 39	38 @ 39	38 @ 39	33 @ 34
"	37 @ 38	37 @ 38	37 @ 38	33 @ 34
Braid	32 @ 33	32 @ 33	32 @ 33	30 @ 31
TEXAS.				
(SCOURED BASIS.)				
12 months, fine, and fine medium . . .	73 @ 75	75 @ 77	75 @ 77	65 @ 68
Spring, fine and fine medium	62 @ 65	63 @ 66	63 @ 66	58 @ 60
Fall, fine and fine medium	55 @ 57	55 @ 57	55 @ 57	54 @ 55
CALIFORNIA.				
(SCOURED BASIS.)				
12 months, fine	70 @ 72	72 @ 73	73 @ 75	63 @ 65
Spring, fine	60 @ 62	62 @ 64	62 @ 64	56 @ 58
Fall, fine	54 @ 56	55 @ 57	55 @ 57	53 @ 55
TERRITORY WOOL: Montana, Wyoming, Utah, Idaho, Oregon, etc.				
(SCOURED BASIS.)				
Staple, fine and fine medium	78 @ 80	78 @ 80	80 @ 82	70 @ 72
Clothing, fine and fine medium	72 @ 75	72 @ 75	75 @ 77	66 @ 68
Blood	73 @ 75	73 @ 75	78 @ 80	66 @ 68
"	70 @ 72	70 @ 72	72 @ 73	64 @ 66
"	67 @ 68	67 @ 68	69 @ 70	60 @ 62
NEW MEXICO.				
(SCOURED BASIS.)				
No. 1	68 @ 70	68 @ 70	72 @ 75	63 @ 65
No. 2	62 @ 64	63 @ 65	66 @ 68	57 @ 59
No. 3	55 @ 58	55 @ 58	58 @ 60	52 @ 54
GEORGIA AND SOUTHERN.				
Unwashed	33 @ 35	34 @ 35	35 @ 36	33 @ 34

JULY 1, 1916.

DOMESTIC WOOL.

April, May, and June are generally quiet months in the wool trade, and there has not been any marked activity this year in the way of sales, although, perhaps, a steadier demand than usual has been noted. Much of the old territory wool has been moved, and at more favorable prices than the new clip is likely to be sold at. The domestic market has constantly reflected foreign strength, and holders are imbued with a feeling of optimism for the future.

The embargo recently placed on exports of wool from England and her colonies has made a demand for fine and fine medium staple domestic wools, resulting in a substantial advance in values. Good scoured wools have also been sought after at steadily advancing prices. The domestic clip has been marketed from the country with a considerable degree of speculation attending it, as the growers have been strong holders and not inclined to make concessions in order to move their wool.

Manufacturers are all busy, and are likely to continue so for another season at least.

GEORGE W. BENEDICT.

PULLED WOOLS. (W. A. BLANCHARD.)

	1916.			1915.
	April.	May.	June.	June.
Extra, and Fine A	72 @ 80	72 @ 80	73 @ 80	67 @ 70
A Super	65 @ 70	67 @ 70	68 @ 72	62 @ 65
B Super	60 @ 67	62 @ 68	65 @ 70	60 @ 63
C Super	50 @ 56	50 @ 56	52 @ 58	50 @ 53
Fine Combing	75 @ 80	75 @ 80	75 @ 80	65 @ 68
Medium Combing	70 @ 73	70 @ 73	70 @ 73	62 @ 65
Low Combing	63 @ 67	63 @ 67	65 @ 67	57 @ 60

PULLED WOOLS.

As compared with the activity which characterized the general market, pulled wools were notably quiet during April and May, with the exception of fine and staple grades. In June a sharp demand sprang up for supers of all grades and good Eastern B's were sold for 70 cents, a price which had not been obtained since February, 1915, the climax of the speculative "boom" of that year. The June movement and advance were legitimately occasioned by manufacturers buying, in large part to fill United States government orders for uniform cloths. Both Chicago and Eastern markets were well sold up at the close of the quarter.

W. A. BLANCHARD.

FOREIGN WOOLS. (MAUGER & AVERY.)

	1916.			1915.
	April.	May.	June.	June.
Australian Combing:				
Choice	42 @ 45	43 @ 45	44 @ 46	35 @ 36
Good	40 @ 43	41 @ 43	42 @ 44	34 @ 35
Average	36 @ 37	37 @ 38	39 @ 40	33 @ 34
Australian Clothing:				
Choice	38 @ 39	39 @ 41	40 @ 43	32 @ 34
Good	36 @ 37	37 @ 38	38 @ 39	31 @ 33
Average	34 @ 36	35 @ 36	36 @ 38	30 @ 32
Sydney and Queensland:				
Good Clothing	38 @ 39	39 @ 40	40 @ 42	33 @ 34
Good Combing	41 @ 43	42 @ 44	43 @ 46	34 @ 35
Australian Crossbred:				
Choice . . . . .	*	*	*	.....
Average . . . . .	*	*	*	.....
Australian Lambs:				
Choice	34 @ 37	35 @ 38	36 @ 38	32 @ 34
Good	32 @ 34	33 @ 35	34 @ 36	31 @ 32
Good Defective	30 @ 32	31 @ 33	32 @ 34	30 @ 31
Cape of Good Hope:				
Choice	33 @ 34	33 @ 34	34 @ 35	29 @ 30
Average	25 @ 27	25 @ 27	25 @ 28	22 @ 25
Montevideo:				
Choice	40 @ 42	40 @ 42	41 @ 43	34 @ 36
Average	38 @ 40	38 @ 40	39 @ 40	30 @ 32
Crossbred, Choice	38 @ 40	38 @ 40	38 @ 40	38 @ 40
English Wools:				
Sussex Fleece . . . . .	*	*	*	.....
Shropshire Hogs . . . . .	*	*	*	.....
Yorkshire Hogs . . . . .	*	*	*	.....
Irish Selected Fleece . . . . .	*	*	*	.....
Carpet Wools:				
Scotch Highland, White	*	*	*	24 @ 26
East India, 1st White Joria	45 @ 46	45 @ 46	45 @ 46	.....
East India, White Kandahar	42 @ 43	42 @ 43	42 @ 43	.....
Donskoi, Washed, White . . . . .	*	*	*	.....
Aleppo, White	*	*	*	40 @ 45
China Ball, White	33 @ 37	33 @ 38	33 @ 38	33 @ 36
" " No. 1, Open	34 @ 38	34 @ 38	34 @ 38	30 @ 33
" " No. 2, Open	28 @ 31	28 @ 31	28 @ 31	25 @ 27

* Out of market.

FOREIGN WOOLS.

A very steady demand has characterized the market for fine foreign wools during the second quarter of this year. One after another the manufacturers have come into the market and a continuous demand has caused a uniform advance in prices.

The relative cheapness of colonial scoured wools became apparent, and a very large volume of this class of wool has gone into consumption.

The strong feeling of confidence in the value of wool here was confirmed by the increased scope of embargoes and restriction against exports of wools now enforced in all countries subject to British control, except South Africa.

The aggregate of shipments from South America has been unusually large and it is supposed that much of this wool may be intended for export when the end of the war permits shipments to Europe.

Partly owing to the liberal supply, but perhaps more to the popularity of goods made of fine wools, sales of crossbreds have not been very large, although values have been well maintained.

English wools not being in market, are not quoted.

The carpet wool situation is very strong, although manufacturers have not been in evidence recently in the wool market.

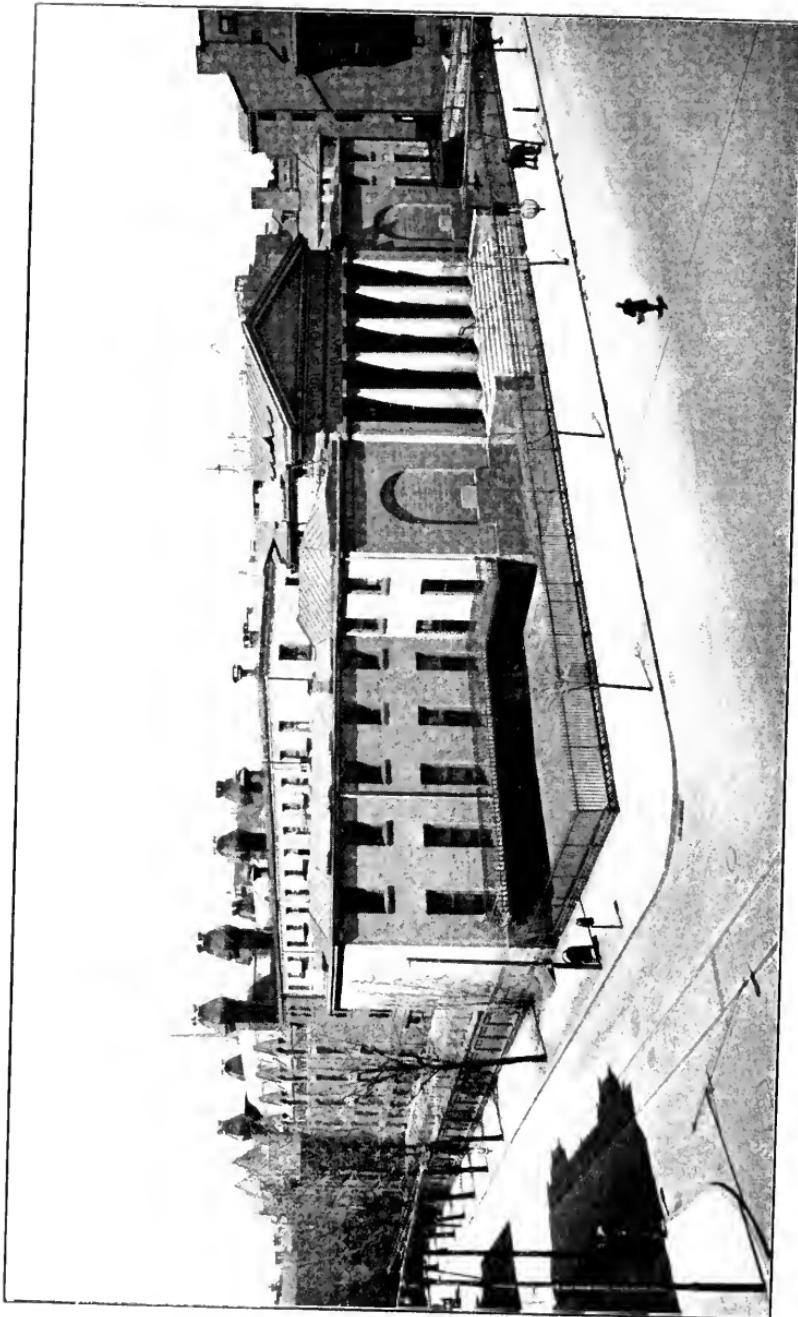
MAUGER & AVERY.

JULY 14, 1916.

THE TEXTILE BUREAU.

An office in connection with the work of the Textile Bureau, to prevent the fraudulent undervaluation of imported textile manufactures, has been opened on the sixth floor of the Singer Annex, 95 Liberty Street, New York. Every instance of imported goods sold here at prices that suggest a probability of undervaluation should be immediately reported to the Bureau at the above address.

JOHN P. WOOD,
Director.



The Philadelphia Textile School.
Administration Building.

B U L L E T I N

OF THE

National Association of Wool Manufacturers

A QUARTERLY MAGAZINE

DEVOTED TO THE INTERESTS OF THE NATIONAL WOOL INDUSTRY.

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BOSTON, OCTOBER, 1916.

[No. IV.

THE PHILADELPHIA TEXTILE SCHOOL.

AMERICA'S PIONEER SCHOOL FOR TECHNICAL INSTRUCTION
IN TEXTILE PRODUCTION.

By DR. E. W. FRANCE, Director.

PRIOR to 1876 industrial education in any form was practically an unheard of subject in this country. The awakening to our weakness was largely due to the wonderful display of art, and artistic productions of every kind, shown in the International or Centennial Exposition held in Philadelphia that year.

In comparing the products of foreign exhibitors with similar ones of home production, it was clearly seen by some of our leading citizens at that time, that if America was to attain her proper place among the foremost nations of the world, a new order of things was necessary. Her products were crude in comparison, they lacked the artistic in both design and finish; and to overcome these defects it was very apparent that efforts should be made to provide museums and schools, as other countries had done, whereby her artisans of the rising generation could be trained along technical lines. To this end, therefore, a few of our most philanthropic citizens formed themselves into an association and secured a State charter under the title of the Pennsylvania Museum and School of Industrial Art.

The first work of the founders was to secure as many of the exhibits on display at the Exhibition as they could. In

this way they were quite successful, and with this nucleus housed in the only permanent building of the Exhibition (now known as Memorial Hall in Fairmount Park), the Museum became a reality. It was not until the winter of the following year, 1877, that the organization's Board of Government decided upon the opening of the school itself. Temporary quarters were secured, instructors employed, and thus the school was started on its career of usefulness, which is now known to the general public as the "*School of Industrial Art*."

Up to 1884, the work of the classes was confined to the general courses in drawing, painting, modeling, etc., with constant regard for the needs of the industry, it is true, but without attempting to provide instruction in any of the occupations themselves. Paralleling the above-mentioned period, or possibly a little before, and continuing along into the early 80's, English and Continental textile machinery manufacturers were very successful in developing what has since proved to be an epoch-making series of valuable mechanical improvements to what is commonly known as the worsted end of the woolen manufacturing business. These improvements, as well as the numerous number of inventions which would naturally follow along similar lines, created a radical evolution in the direction of possible productions, in both men's and women's wear. These inventions and improvements, it will later be shown, are indirectly responsible for the establishment of the "*Philadelphia Textile School*," the pioneer school for technical education in textiles in this country.

The necessity for this educational movement undoubtedly owes its first serious consideration to the advent into this country along in the late 70's, of large quantities of a then new type of most beautiful worsted fabrics for both men's and women's wear. These new fabrics created quite an evolution in the industry, and were only made possible by the wonderful mechanical improvements, above referred to, in the construction of the worsted combing machine. The results of these improvements have been most marvelous, and

have created quite as much of an evolution in this worsted branch of the woolen industry, as did the Whitney cotton gin in the cotton industry.

Prior to this time all worsted yarns were made from long staple wools, which were almost exclusively used in the manufacture of carpets, rugs, and coarse knitted fabrics, but with the new improvements it was possible to comb a much shorter-staple wool than previously, and the coarser variety of the so-called clothing wool began to receive such treatment that manufacturers were able to produce a fairly good worsted yarn for clothing purposes.

The earlier fabrics made from these coarser yarns were not altogether satisfactory, for when made up into garments they became very shiny in parts where the wear was at all continual. Necessity being the mother of invention, still further improvements were made, not only in the comb alone, but in other branches of worsted yarn manufacture, such as drawing, spinning, etc. These new yarns gave a great impetus to the manufacture of wearing apparel for both men and women; moreover, the possibilities for new creations were far in advance of the weaving art to produce them. Greater scope was thereby given to the designers in fancy mixtures, and clean-cut patterns and fancy weaves of all descriptions were brought into use in these new fabrics, which was not possible in fabrics made of woolen yarns.

PRESIDENT SEARCH, PIONEER.

Fabrics of the above description, after supplying the European demand, were naturally exported into this country, and while some of our foremost manufacturers seemed to have been fully alive to the situation, they were not, for various reasons, in a position to meet this competition. One of the first to observe the then existing conditions was Mr. T. C. Search, at that time a member of the firm of Fiss, Banes, Erben & Company, worsted yarn spinners of Philadelphia, successors of the first worsted spinning mill in this locality, if not in the country. Mr. Search readily saw that

while the firm of which he was a member was willing and anxious to adopt the machinery necessary to make these yarns, there were most serious difficulties in the way, the most important of all being the lack of the skill necessary, not only to make the yarn, but to design and execute this new class of fabrics the yarn was intended to go into. He felt, after looking over the field, that his earlier convictions were more than confirmed, that there was really a dearth, not only of designers and superintendents, but of skilled workers all along the line, dyers, designers, weavers, and finishers, who fully understood this new field of work, and were competent to deal with the problems which it presented.

In other words, a new order of things had arisen, and Mr. Search saw that something would have to be done to aid the future textile manufacturers, if they ever expected to reach a higher level of efficiency and cope with foreign competition. It was largely in response to Mr. Search's initiative in this direction that in 1882 a few of the leading and most progressive manufacturers of Philadelphia formed themselves into an association called the Philadelphia Textile Association (which has later become the well-known Manufacturers' Club of Philadelphia), and among the many objects for which the association was created was the fostering of technical education in textiles.

Before the association had really made much progress along this line, the knowledge of its intention reached the ears of the Board of Trustees of the Pennsylvania Museum and School of Industrial Art, which body immediately set about to endeavor to have the Textile Association affiliate with them so far as the school project was concerned. This was accomplished, and Mr. Search was invited to accept the chairmanship of the Instruction Committee of the Institution. This was in January, 1884. In the late fall of the same year it was decided to organize a Textile School as a branch of the School of Industrial Art, to be known as the "Philadelphia Textile School."

THE DAWN OF TEXTILE EDUCATION.

Textile education at that time was, of course, a new idea to the American people; it was necessary to begin at the very foundation of the work, without previous knowledge of the exact methods to be adopted, or the means to be employed to reach the desired end. England at this time had made some little progress along these lines. In Bradford, Leeds, Huddersfield, Manchester, and a few other textile centers, schools for the teaching of textile design had been started. Germany, profiting through the World's Fair held in London in 1851, by keenly recognizing the lack of the artistic element, as well as of certain technic in many of her productions, had long before established schools as the means to raise the standard of her products, not alone in textiles, but in many other of her industries. Indeed, it was Germany encroaching upon what England considered her special field in textiles which caused the British Parliament in 1880 to appoint a special commission (known as the Royal Industrial Commission) to go to Germany and carefully study the whole question, and, to quote from the report of Sir Swire Smith, one of the members of the commission, we find :

Our Continental rivals had learned everything from us that we could teach them; more than that, whilst we had spent our energies developing machinery, which they bought freely from us, they have spent theirs in developing the brains of their men to the making of beautiful products by these same machines, which products were returned to us at a many-fold profit.

The direct result of this commission's work was the establishment, in 1882, of the above-mentioned schools.

This, then, was the condition existing in other countries at the time of the organization of the Philadelphia Textile School, a sort of a world-wide awakening to the needs of the times, but, unlike the Philadelphia effort — a sort of a private initiative — these foreign schools, and particularly those of Germany, were all under government and municipal control and direction. While the examples of these foreign schools were good ones to emulate, conditions in our country

were so different that any successful scheme of instruction pursued by them was considered impractical here.

FROM A SMALL BEGINNING.

The Philadelphia school began its career in the very smallest kind of a way. Its early struggles were numerous and its sympathizers were few, and not until the school had been in existence for some years, or until its early graduates began to make themselves felt in the industry, did the school begin to receive its deserved recognition. The German and English conception of such instruction was that structure and artistic embellishment in the way of color and design were all that was required, but with the advent of the American school, a broader and more comprehensive conception was ushered in, for, while we recognized the great importance of structure and artistic coloring quite as keenly as did our foreign prototypes, we considered that a knowledge of raw materials was equally as important, and that their preparation and manipulation had equally as much to do with a satisfactory product as structure alone, and in some instances more, especially so when handle and feel should be required to play an important part in the finished fabric.

From the very beginning this conception was kept constantly in mind, and just so soon as facilities in the way of necessary room presented themselves, the needed machinery for the conversion of raw materials into yarns of cotton, wool, worsted, and silk was installed. With the addition of this new machinery came the necessity of further additions to the dyeing equipment, not alone on account of the natural growth of the school, but by a greater demand for more dyed material in the shape of cotton, wool, and worsted yarns for the much enlarged weaving department, as well as wools for the carding and spinning departments, from which to make fancy mixtures and yarns to be used in fancy cassimeres, etc.

Thus the school has grown by steady additions, slowly, but surely, into the commanding position which it holds to-day. The stimulus which has prompted from the very beginning

this growth, and inspired its promoters to increased efforts toward higher efficiency, is unquestionably due to the success and loyalty of its graduates. How well they have succeeded is best attested by the fact that they are now to be found in all centers of the country's textile industry, holding positions of trust and responsibility, not alone in the mills themselves, but in the marts of trade, directing the marketing of products and the designing of styles and patterns, which anticipate the popular taste, or even create it. They have in truth become a gradually growing power for good, which has in turn awakened an increasing demand for such trained specialists. Again, the success of the earlier graduates has at the same time begot extensive imitation, until to-day we have no less than twelve textile schools along the eastern border of the continent—the chief textile center—each attempting in various ways to supply the local demand for similarly trained men.

NO LONGER AN EXPERIMENT.

It will thus be seen that this sort of education has long ago passed through the experimental stage: it is no longer an experiment—it has been demonstrated to be a success, and it is destined more and more to influence the sale of textile fabrics of the country, as the years go by. It must, however, be frankly admitted that we are a long way from that perfect work which must eventually follow in the footsteps of a more general education of our young men in these textile schools. Where to-day many of the leaders of the textile industry are perhaps educated in such schools, the rank and file of them, those who have charge of the work itself, are yet uninfluenced to any great extent by trained men. As soon as these positions are filled, as they are destined to be eventually, by those who have been in attendance at the school, we shall see an uplifting of the textile trades, such as could be brought about by no other agency. Upon this point the foremost of our textile manufacturers, I believe, are fairly well agreed; otherwise the existing schools for such education, even now in operation, would never have been established.

But what we are most concerned about to-day, and about which there is so much discussion, is not the means to the end so much as the methods to be adopted in these schools themselves to secure the desired results, and upon this point hinges our whole problem of textile education. We have in past years, it is true, through organization and genius in machine invention, together with a reasonably effective protective tariff, been able to meet foreign competition in many lines of textile production, but it cannot be denied, and it is needless to persuade ourselves to the contrary, that where we have been the most successful has been largely along the commoner lines of production, or what is termed "a medium class of goods" where quantity has been the chief requisite; but upon the higher or more artistic lines of production — those which are sold by the yard and not by the pound — we are still, with a very few exceptions, sadly deficient in comparison with similar fabrics of foreign production.

The lesson for American manufacturers is, therefore, very plain indeed. If we as a nation expect to win our way and attain the highest success in textile productions, we must build better in the future than we have in the past; we must recognize our weaknesses, not only in this but in many other directions, and make every possible provision to correct them. It must be frankly admitted that our foreign competitors have, at present, all our economic appliances, and are able to meet us, man to man, or machine to machine, on a common ground, but they have in addition a something which we as a nation have systematically neglected, and that is, skilled craftsmen, artistically trained in all branches of textile production. The foreign manufacturer has watched our wonderful mechanical progress, and has set himself to surpass us on more profitable lines. After a little careful study, however, it was apparent to him that quality rather than quantity was, after all, the chief factor in the problem, and to attain success in this direction it was recognized as indispensable that not only the working classes, but the manufacturers as well, must be educated to higher and finer standards of taste than ever before.

SKILL THE SECRET OF VICTORY.

It is undoubtedly the nation which possesses the most skill which will win in the race. The country which expects, or deserves, to make fabrics which will find a ready sale in the world's markets, must see that her citizens engaged in the manufacture of such goods, not only possess a knowledge of the minutest details of the operation, but that they also have in addition to this a training which will supply that refining influence of culture and taste, which is so essential and so indispensable to all high-class productions. The truth that needs to be brought home to those of us who are looking to technical education for the solution of these industrial problems is the fact that culture, and that of the most thorough kind, is not to be dispensed with, but directed. It is, unfortunately, rather easy to think that it can be dispensed with—that our boys need not go to college at all because so many who have gone have failed to make profitable use of the things they learned. If people draw such conclusions as that, they make a great mistake. The college and high school were never so necessary as now, and the necessity for them is increasing, and is to increase indefinitely as the years go by. The demand for culture was never so great as at the present time, and it was never demanded so persistently as it is now by many of the industrial classes in whose interest this great movement for textile education is going on. It is not less cultivation, then, but more that we are after, and the business of the technical school is not to withhold it, but to increase and multiply under proper direction the forces that make for culture and refinement.

Now, technical education in textiles, to be of the more effective kind, must be built upon this higher education, and of necessity must be of the college grade, which means that the men who are to profitably pursue it must be, when entering the school, not less than 18 to 20 years of age, and should have had the benefit of a preparatory schooling, which had monopolized their time and energy up to that time. To me, technical education in textiles means the embodiment of all instruction in both practice and theory, which may practi-

eally be included in the requirements of a good, sightly, and saleable article, whether it be of cotton, wool, or silk. What the student of higher textiles should be taught is not only what the apprentice should be taught in the mill, to do actual things, and to produce actual stuff, but hand in hand with this instruction must go all the necessary information required for these productions, from the raw to the finished state, not omitting a thorough training along the artistic as well as the commercial side, which stands for the money value of the products produced.

This commercial side of the problem cannot be separated from this higher education; in fact, higher education in textiles is so necessarily interlocked with the commercial that it is almost impossible to treat of the one without entering the field of the other. So much so is this a fact that it has always been one of the aims of the Philadelphia school to have the commercial aspect of the questions involved studied side by side with the technical.

A DIFFICULT AND EXACTING TRADE.

I believe it can truthfully be said that no other industry requires so much versatility and resourcefulness in its successful management as does that of textile manufacturing of to-day. Moreover, the conditions of no other industry are so closely identified with that of the whole people as that of textiles. This is due to the fact that the textile field is so intimately related to the field of domestic economy and usefulness that any disturbance in its equilibrium, from whatever source, is at once noticed. Any new expressions of taste or change in construction of cloth or in finish, giving new results and influencing the texture and variations of surface and feel, or the still more striking influence of design or color, are all reflected either for good or bad in the attitude of the consumer toward these various changes. Hence it follows, that a broad, comprehensive, and thorough knowledge of textiles in general is an absolute necessity, for all who are in any way to be identified with the creative or managerial side of the textile industry.



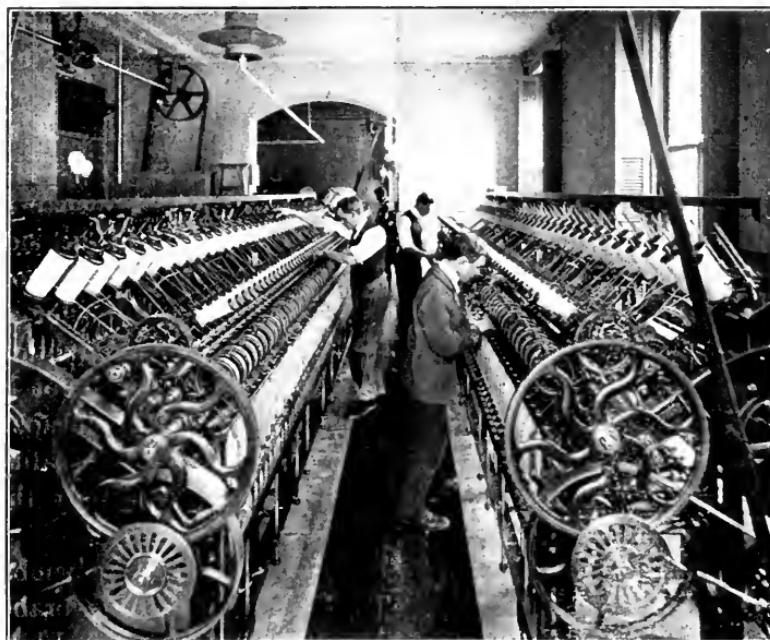
Hand Warping and Weaving Room.

In addition, the student of textiles should make a thorough study of chemistry, dyeing, bleaching and finishing, so that he may be able to judge from the finished fabric the needs of the fabric in all its ramifications, back to the raw materials required in its production. This, briefly speaking, is the A-B-Ab-, or fundamental knowledge required for our modern textile designer, or embryo manufacturer, and no one part of this education can be neglected, and least of all the artistic side, the side in which color and design play so important a part.

It is not, as is generally known, the intrinsic value of an article alone that makes it saleable — far from it: its first requisite must be that it is attractive — it must have snap in color as well as design. Indeed, it is more from this art side of the problem than the mechanical that our needs are most apparent to-day. It is the artistic, either in design, color, or finish that constitutes the charm of all textile production, and enables the good goods, and some which may not be quite so good, to hold the market. No amount of cheapening processes can compensate for the absence of this quality, and no amount of purely mechanical skill can supply this want.

In conjunction with this statement, it is well to remember that the Philadelphia Textile School is most favorably situated in its location, as well as in its association. Philadelphia is a large textile center, one of, if not the most, important in the country, and particularly celebrated for its great variety, rather than the extent of its textile industries. Its large department stores are veritable marts of trade, where are to be found all forms and phases of the latest styles of textile productions, which can be seen and studied. Again the great Museum, which forms so important a branch of the organization's work, commonly known as Memorial Hall in Fairmount Park, also possesses a most valuable department of textiles, wherein fabrics of past ages can be studied to great advantage. Moreover, the Textile School is associated, as before mentioned, with a great School of Industrial Art, in which the influences that make for refine-

ment in design, color, and execution are focused, and made available in a way that would be impossible anywhere else. In other words, to be artistic, to know what is good, and what is bad, not only in color, but in form and design, one must pass at least a portion of his time in the atmosphere of artistic creation.



Section of Worsted Spinning Room, showing worsted spinning frames.

A COSTLY EQUIPMENT NEEDED.

For a further understanding of this all-important question of higher education in textiles, it is my firm belief, based upon experience and the necessity of the case, that of all forms of technical education in common practice to-day none is more expensive to maintain, none more difficult to provide for, than that of modern textiles. Of necessity, the purely practical character of its teaching demands an equipment in each branch covered by the curriculum taught, whether cotton, wool, or silk, of an extent in greater variety of

machinery alone than would be the case in the factory itself, and in the case where the aims are to teach the practical working of all three of the fibers, it means an equipment and variety such as would be found in several factories. Experts, men of known ability in their line, must be employed as teachers in all these branches, as well as the sub-branches of the work, and at the same time, comparatively few students can be cared for, or allotted to any one teacher at any one time: and again, practical teaching means the handling of materials as well as machines in a practical way, not simply for principles alone, but for desired results, the after effects of the product under consideration.

Now it will readily be seen that technical schools in general, and particularly textile schools, will naturally have a limited number of students, a comparatively large staff, an extensive equipment, and a corresponding large consumption of materials, raw and otherwise, rendering this form of education a very costly one. Costs in all industrial work are usually measured by results. Can any one justly measure the benefits thus far attained through this form of education in America — especially when it is stated that the graduates of the Philadelphia school alone now shape or influence, wholly or in part, the products of \$20,000,000 worth of invested capital? I think not.

It is not, then, what has thus far been accomplished in America in technical education in textiles that we should be the most concerned about; that is, we might say, a question of the past; but, what must we now do even to maintain the position which we have gained, and what steps should now be taken, to further stimulate and foster this all-important form of special education? These are the questions of the hour, and they are as serious to-day, if not more so, to those having this problem in hand, as they were when the Textile School was first established thirty-two years ago. The evolution is still going on, we are facing new conditions, and they must be met fairly and squarely. But the most important question of all is — Whose duty is it to see that proper and adequate means are supplied to strengthen and maintain

this all-important work, which has by no means reached the state of perfection which the immediate future of the industry demands, and upon which the future of the industry most certainly depends? On the face of it it would seem plain enough that inasmuch as the work of the school is so directly allied with the commercial, managerial, and creative side of textiles in general, any industrial increase which undoubtedly benefits all is a work of public importance, and should be very liberally supported and encouraged by the State and municipality, if not by the National Government itself.

THE DUTY AND RESPONSIBILITY OF MANUFACTURERS.

Upon whose shoulders, then, must this duty rest — that is, the taking of the proper initiative, in securing this necessary support from the public purse? It would seem only natural to make reply by saying that it should be either collectively or individually a manufacturer's duty, and it is putting it very mildly indeed to say that manufacturers as a whole have not as yet realized the extent of either their responsibility or their opportunity in this matter. Without the systematic coöperation and support of practical men, technical education must miss a large part of its meaning and fail to accomplish a large part of its purpose. The educator, as such, is doing all he can, but the manufacturer must help — he must interest himself in the school, must familiarize himself with the details of the work. Manufacturers should learn to appreciate the task the school has undertaken to perform and lend their aid in every possible way, in securing the recognition and financial support of the proper legislative parties, for the upbuilding of the personnel — the trained skill and knowledge whereby our textile industry may be brought to the highest state of efficiency and economy.

In many respects we know very little of what is going on in the warring nations of Europe, but from information received through sources which I believe to be most reliable, we learn that Europe, notwithstanding the terrible life and death struggle she is engaged in, is bending all effort to reorganize her industries to meet prevailing conditions.

Conservatism in industrial ideals and methods has been blasted and shattered to pieces in the shock of war. Old systems that normally would have hung on for years have been discarded over-night — old equipment that would have been retained for years has been scrapped for new installations of the most advanced type. New processes are being discovered — new inventions are being made, and new forms of organization are going on everywhere.

Industrially, England has been preëminently the land of yesterday, but this is all changed now — England has at last been aroused. Efficiency and scientific systems in factory management are being introduced everywhere, with results of a most profitable character.

We are told that among the textile manufacturers of England, and particularly those of the West Riding of Yorkshire, there has arisen a most wonderful activity among some of the foremost of the well-known textile manufacturing firms, to stimulate, and improve in every possible way, the higher forms of technical education in the textile schools of the various districts. To better understand what is being done, let it be realized that each textile town has its college, and the smaller centers have their schools for technical education. The industries are localized, and the local schools pay attention to the branches of the trade carried on in their own vicinity. In other words, the manufacturers seem to feel that while the instruction given in the schools may be of a serviceable nature from a purely mechanical point of view, it fails, however, to develop initiative, and stimulate progress as it should do. In fact, the schools have gotten into a rut, so to speak, and it is the purpose of this newly appointed Committee of Manufacturers so to improve the textile curriculum that it may promote more scientific investigation into the technical problems of the industry.

Heretofore, the school system has not had the benefit of all the assistance the manufacturers could give; employers have found fault with the schools, without stirring themselves to assist in making them better, and it is now proposed to get

after these manufacturers and employers in general, and make them take a more vital interest by causing them to subscribe to the up-keep of new scholarships and research departments in the schools. A sum of \$25,000 a year for the term of five years is demanded. Contributions ranging from \$25 to \$250 per year are sought — the larger the number of subscribers the better in the eyes of the manufacturers who are promoting this scheme. It is intended to use half the sum subscribed for scholarships to provide the highest education for the most deserving students, and the other half will be spent on laboratory and experimental work. The committee in charge of this movement, we understand, makes it very plain indeed that the money sought shall in no case be used to meet the current expenses of the existing schools, but shall be considered an extra sum to make a larger outlay more productive.

All of which goes to show that indifferent and lukewarm as the English textile manufacturer may heretofore have been, through this shock of war he has now come to realize, as he has never done before, that technical education is by no means a myth, and hereafter he will endeavor to secure all the advantages he can, by affiliating with and fostering whenever he can, the advancement of the existing textile schools. To this end he has our congratulations, and we trust that his example will not be lost on the textile manufacturers of the United States.

A "HISTORY OF MANUFACTURES."

ANOTHER MONUMENTAL WORK FROM THE CARNEGIE INSTITUTION — DR. VICTOR S. CLARK'S PORTRAYAL OF THE PERIOD FROM 1607-1860.

WHEN Mr. Carnegie endowed the spirit of scholarly research in America with the sinews of wealth which that spirit has conspicuously lacked in all times and all countries, he made to his nation and his people the very best benefaction which wealth could just then bestow. How well he dreamed and planned, the future will realize more clearly than the present generation. But one by one the great Carnegie-endowed institutions for original study are beginning to yield specific, impressive fruits. One of these was Professor Emory R. Johnson's "History of Domestic and Foreign Commerce of the United States," published last year by the Department of Economics and Sociology of the Carnegie Institution in Washington. Another is Dr. Victor S. Clark's "History of Manufactures in the United States," of which the portion dealing with the period from Jamestown founding to the Civil War has appeared this autumn. It is a great work of nearly 700 pages, and it "embodies the results of more than ten years' special research and the expenditure of many thousand dollars under the auspices of the Institution." The author has had a career of distinction in the national service. He has been an investigator for the United States of labor conditions in Cuba, the Philippines, Java, and Australasia, and he has served as Commissioner of Immigration, Labor, and Statistics of the territory of Hawaii.

The present task was originally destined for Dr. S. N. D. North, formerly the able Secretary of the National Association of Wool Manufacturers, whose assistance in the form of notes and books upon the woolen industry Dr. Clark acknowledges. But as Director of the Census, Dr. North found it necessary to relinquish the actual preparation of the work to

another and well has his successor fulfilled the large responsibility.

In the earlier pages dealing with colonial conditions the author considers the industrial and commercial relation to each other of the new American settlements and the mother country. In the British Isles such manufacturing as the world then knew was firmly established, though in many industries Great Britain still held a place inferior to that of the industrial nations of the continent. America's first manufactured exports were derived from the abundant forests—timber and ships.

This moved the president of the old East India Company, Sir Joshua Child, to sound a note of warning :

New England is the most prejudicial plantation to this Kingdom. Of all the American plantations, his Majesty has none so apt for the building of shipping—and, in my poor opinion, there is nothing more prejudicial, and, in prospect, more dangerous to any mother kingdom, than the increase of shipping in her Colonies.

After the timber and shipping trades came the export of flour and provisions—and then of iron in crude form. A royal duty of 10s. a ton on iron imported into the colonies in 1679, aroused the colonists to the smelting of native ores—whereupon the paternal British government imposed stiff duties ranging from about \$1 a ton on pig to nearly \$10 on bar iron from America.

As Dr. Clark says: “The colonial policy of Great Britain followed logically from the purpose of the government, when the colonies were established, to make them subservient to the growth of English commerce and manufactures. This was not only the universal attitude toward colonization at that period, but it was part of a system of economic legislation and territorial privilege that from early times had permeated the entire industrial life of the country. . . . During our colonial period Ireland and Scotland suffered disabilities similar to those imposed on the North American settlements. The manufacture of woolens in Ireland was prohibited.”

HOW BRITAIN REPRESSED THE COLONIES.

When homespun wool manufactures grew in the United States, a heavy export tax, previously collected on British goods sent to the colonies, was abolished, with a view to discouraging the American household industry. When in 1699 British manufacturers and merchants complained that the colonists were exporting wool and cloths to foreign markets in competition with Great Britain, Parliament enacted that no colonial wool or yarn or cloth should be shipped to any other plantation or "to any other place whatsoever," under heavy penalties. In 1732 Parliament prohibited the export of colonial-made hats, not only to England or Europe, but from one colony to another; New England manufacturers had begun to ship such goods to Spain and the West Indies. When in 1750 an interruption of the Baltic trade made pig iron scarce in the United Kingdom, Parliament ordained that colonial iron might be admitted free of duty, but at the same time forbade the erection in the colonies of slitting or rolling mills, tilt hammers or steel furnaces — the purpose being to confine the Americans to the production of iron for British manufacturers and to prevent the starting of the more advanced processes on this continent.

But all this ingenious and persistent British repression proved more irritating than effective; its total influence, the author states, "is hard to estimate." Barred from some industries, the enterprising colonists turned to others with intensified vigor and determination — and meanwhile political resentment and the sentiment for separation steadily grew. But not until 1774, the year before Concord and Lexington and Bunker Hill, did the British Parliament abandon the effort to smother American manufactures. As Dr. Clark concludes in studying those times, "the presumption becomes better defined with every new detail of fact revealed, that upon the whole the industrial development of the colonies was about where it would have been had their economic policies been governed by their own people. Natural influences were vastly more important than political policies in determining that development."

Against the selfishness of the home government colonial lawmakers strove manfully to encourage home industry. Thus in 1655 Massachusetts directed the selectmen of every town to ascertain the number of persons in each family competent to spin yarn and the time they would have to do it. For every spinner a family contained it was required to produce three pounds of linen, cotton, or woolen yarn a week for thirty weeks, with a fine for shortage. New England colonial governments gave direct bounties to encourage the manufacture of cordage, sail cloth, and linen and woolen cloth — though Rhode Island withdrew the offer as to woolen cloth because “it may draw the displeasure of Great Britain upon us as it would interfere with their most favorite manufactory.” “The renewal of the woolen bounties by some of the colonies in 1775,” says Dr. Clark, “was one of the first acts of revolt against the mother country.” Later, after the Revolution, the Massachusetts legislature gave valuable State lands to the incorporators of the Beverly Cotton Factory, and in 1790 Connecticut held a lottery for the benefit of the Hartford Woolen Factory, the proceeds to be used for new machinery. All these practical encouragements to native industry were bestowed with the loyal approval of the people — there were then no free trade and tariff reform leagues, backed by wealthy importers, in America. As a French observer said in the first year of the new Constitution, 1789, “The farmer and the artisan have more to do than they can perform; scarcity of men makes labor very dear; to supply the want of labor and time the American is forced to invent, to think out new ways of augmenting his efficiency.” Indeed, the patriotic zeal for fostering home manufactures had gone so far that after the peace of 1783 some of the colonies set up customs duties against one another — but these were, of course, abandoned with the establishment of the Federal Constitution.

America was rich in certain forms of raw materials, and these advantages helped the effect of colonial and federal protective legislation. Pine and oak of the best quality were abundant. Bark was plentiful for tanners, to whom the

herds of cattle of the half-tilled country yielded stores of hides. It is true that the textile fibers, wool, flax, silk, and cotton, were deficient or absent, but good iron ore was found at many points near the Atlantic seaboard. Natural resources more than repressive royal laws shaped the form of early manufacturing. But for the more elaborate manufactures all through the colonial period, the people of this country were almost wholly dependent on British workshops. Woolens particularly — except for the plain homespun goods — were wholly of British production. Governor Bernard of Massachusetts wrote in 1763 that "Most of the furniture in the homes of the trading towns is of British manufacture; nails, clocks, lead, locks, hinges, and many other materials for homes are wholly imported from Great Britain."

As to the range of wages in the Old World and the New a century or a century and a half ago, the authorities are strangely conflicting. It is said that in Philadelphia after the Revolution male weavers earned about 63 cents a day. A few years earlier the average weekly wage of men in English textile mills was said to be from \$1.75 to \$2.50. The general belief then was that it cost from 20 to 50 per cent more to manufacture textile goods in America than in Great Britain. Yet when the first real textile mills were established in New England in the early years of the nineteenth century, some manufacturers contended that wages and labor cost were lower than in the British Isles.

STIMULUS OF THE REVOLUTION.

The Revolution itself for the time being proved more efficient than either bounties or tariffs in encouraging domestic industry. Some statements of that period are astonishing — as the boast of the colonel of a Georgia regiment of the Continental Army — "I have made all my own accoutrements, even to the swords for my dragoons, caps, leather jackets, boots and spurs — in short, every article." A Boston merchant writing in 1777 declared — "Though our money has depreciated, the internal strength of the country is greater than when the country began; and there is hardly a town

that has not more ratable polls than at that time. And though many individuals suffer, yet the farmer and the bulk of the people gain by the war." Workmen were scarce — even farm help was not abundant. But a welcome reinforcement came from the Hessian prisoners of war, and Scotch and Irish, and even English soldiers, captives or deserters, readily adopted America as their home and proved valuable workers in many employments.

At the end of the Revolution protective tariff leagues rose quickly on all hands. Before a meeting of the Friends of American Manufactures in Philadelphia in 1787, Tench Coxe, a great protectionist leader of his time, was able to present this impressive roll of already-established manufactures :

Meal of all kinds, ships and boats, malt liquors, distilled spirits, potash, gunpowder, cordage, loaf-sugar, pasteboard, cards and paper of every kind, books in various languages, snuff, tobacco, starch, cannon, musquets, anchors, nails, and very many other articles of iron, bricks, tiles, potter's ware, millstones and other stonework, cabinet work, trunks and Windsor chairs, carriages and harness of all kinds, corn-fans, ploughs, and many other implements of husbandry, saddlery and whips, shoes and boots, leather of various kinds, hosiery, hats and gloves, wearing apparel, coarse linens and woolens, and some cotton goods, linseed and fish oil, wares of gold, silver, tin, pewter, lead, brass and copper, clocks and watches, wool and cotton cards, printing type, glass and stone ware, candles, soap, and several other valuable articles, with which the memory cannot furnish us at once.

But more than higher wages, as Dr. Clark goes on to show, then handicapped American manufacturers in their rivalry with Great Britain. "The labor advantage of British manufacturers consisted rather in having always at call an ample supply of trained hands, whereas American competitors often were put to great expense to secure competent employees or to instruct untrained workers. The temporary suspension of a factory in Great Britain did not mean the dispersion of all available labor for operating it. A plant could resume operation at any time with a full complement

of qualified workmen. In the United States even a temporary cessation of work caused employees to scatter widely in search of other employment, and even to leave permanently the occupations in which they previously had been engaged. Therefore, quite independently of the lower wage-level that prevailed in Great Britain, labor cost was much less than in America. Only where automatic machinery could be used by American manufacturers was the labor element of production approximately equalized in the two countries."

But automatic machinery was scarcer and harder to command in America than on the other side of the Atlantic. As Dr. Clark adds, "England's competitive superiority, which in some ways was greater during the first half of the nineteenth century than during the colonial period, was increased further by its recently acquired technical improvements. English manufacturers had the start of those in America in the employment of steam motors and of automatic textile machinery, and their relative superiority in the manufacture of iron and its products was increased by the adoption of coke furnaces and the puddling process. This made a revolution in the production of iron, to the temporary disadvantage of the United States, almost as great as the subsequent employment of iron and steel for shipbuilding caused in the maritime rivalry of the two nations."

For many years after the Revolution our imports from Great Britain consisted chiefly of cotton, woolen, and linen fabrics. Thus, in 1806, of our British imports, 45 per cent were woolens, 37 per cent cottons, and 6 per cent iron and steel. Imports rose rapidly in the first years of the federal government, and in an interesting study of them Dr. Clark lays down the safe proposition that "In general every financial crisis during the first half of the century was preceded and accompanied by an excessive rise in the per capita consumption of imported goods." Thus, "between 1834 and 1838 the per capita consumption of foreign merchandise rose to figures not equalled since 1819. Just before the crisis of 1837 it amounted to nearly \$11. Similarly, in 1857, importations approached \$12 for each inhabitant, again breaking

the record since the early panic years of 1815 and 1820." Yet in spite of these facts the author contends that "upon the whole the use of foreign goods in America did not increase to correspond with the rising standard of living, the growing dependence of the people upon factory products, and the extending demand for capital to be used in development." American manufactures, under the Federal Constitution, were making sure and steady headway.

AFTER THE REVOLUTION.

The British government after the Revolution set itself more and more energetically to prevent the passing to America of men or machinery that could aid the industrial development of the new republic. In 1782 artificers employed in making or printing calico, muslin or linen were forbidden to leave the kingdom, and three years later this prohibition was extended to include workmen in the iron and steel manufacture and their tools. In 1789 the emigration of coal miners was forbidden. But, though these repressive laws had a certain effect, they were constantly evaded — as in the famous example of Samuel Slater, who brought the plans of cotton working machinery in his head.

The United States entered upon its independent career as distinctly and emphatically a protectionist nation. It was an inevitable development of the spirit of nationality. Dr. Clark puts the case very fairly when he states that "Among the many motives that between 1783 and 1787 turned public opinion towards a stronger central government, one of the most important was the hope of effectively protecting domestic industry and commerce. Under the terms of the Constitution, which gave Congress power to levy duties, to regulate interstate and foreign commerce, and to grant patents to investors, the encouragement of manufactures naturally changed from a State to a federal function." The way to act seemed clear. Several of the colonies or of the new States, as has been said, already had their own protective tariffs, and having surrendered to the national government the power to levy duties, were naturally insistent that pro-

tection be continued. It was natural enough, therefore, that the first tariff law of the United States, going into effect on July 4, 1789, the thirteenth anniversary of the Declaration of Independence, should have as its objects not only the support of the government and the discharge of the public debt, but "the encouragement and protection of manufactures."

As this author well says: "There was no real controversy over the principle of protection, which was accepted generally in the public policy of the eighteenth century." Yet though the intent was plain, the legislation of Congress for many years afterward was too often halting and ineffective. For a quarter of a century thereafter Dr. Clark observes that "Our tariff laws were mainly revenue bills, both in the amount of protection afforded and in the attitude of Congress toward them." Some articles, like boots and shoes, soap and candles, rope and cordage, nails, wool cards, etc., were thoroughly protected by specific duties, but the low or moderate ad valorem duties of the early tariff laws were not sufficient for the purpose. All this is true. The national lawmakers were feeling their way, but it is significant that the general trend was toward higher and higher duties, as lower rates failed adequately to develop a system of national manufactures.

During the non-intercourse period and the second war for independence, or from 1807 until the end of 1814, the United States enjoyed a protection more complete than that of the highest tariff laws. Home enterprises were established to produce the merchandise that could no longer be brought from beyond the seas. Americans were learning to "manufacture for themselves," as Thomas Jefferson in his later and riper years exhorted them to do. But the return of peace and the end of the Napoleonic wars in 1815 brought a sudden reversal of conditions. What the author of the "History of Manufactures" has to say about the conditions that followed the peace of 1815 has a profound historical significance and a most direct and practical bearing upon the question as to what will follow the ending of the present great war and the coming of peace to Europe. A hundred and one years ago peace in Europe brought immediate disaster to the United

States, "when home manufactures were suddenly crippled by excessive importations of foreign merchandise." American factories were prostrate and American farms found no prosperity. To quote Dr. Clark, "When the law of 1816 was passed, Americans still anticipated the return of commercial conditions similar to those prevailing before the war with England. In this they were disappointed. Our foreign trade did not speedily revive. Thousands of men released from military duty in Europe returned to farming and foreign crops increased; at the same time England levied higher duties on imported grain and provisions. Consequently there ensued a steady decline in the price of American farm produce. In 1819 a collapse of currency inflation caused a financial crisis. These conditions increased popular feeling in favor of protection, but did not cause an immediate change of tariff policy."

In the tariff discussion that followed the second war with England all over the country, Dr. Clark notes the important fact that "wool duties were the central text of the protectionist gospel of Northern farmers during their transition from subsistence to commercial farming."

Opponents of protection assured farmers that factories drew labor away from agriculture and increased wages; but the force of this contention was weakened by the fact that the most prominent of these industries, the textile mills, used women and children operatives, and gave employment to farmers' daughters. Moreover, the effect of competing occupations upon the supply of farm labor was counteracted to some extent by immigration and by the improvement of agricultural machinery. Partly for these reasons the growth of factories did not, as it has in some parts of Europe, cause a fall of land values in surrounding districts. To be sure, the industrialization of New England accompanied a decline in its agricultural prosperity, but this was attributed, probably with justice, to the competition of newer and richer lands in the West with the exhausted and poorer lands of the older section, and not to the fact that both labor and capital now found better profits in manufacturing than in farming. In fact, the agricultural competition of the West was used by New Hampshire as a local argument in favor of higher duties on wool and manufactures.

RISE OF THE TARIFF ISSUE.

The protective tariff question, as it was to be known for long years later, began to develop definitely in this country in the period after 1815. The author of this history notes that "In the South sectional opposition to a protective policy was beginning to be manifested." This was to culminate later for the time being in resistance to the tariff of 1828 and the South Carolina nullification movement. But one of the few conspicuous lacks of this great volume is the scant attention given to the close connection between the rise of the slavery and secession issue and the intensifying of the protective tariff issue. An adequate consideration of this subject may involve the recalling of bitter memories, but truth is truth and history is history—and the new South of to-day is not altogether the South of 1833.

Calhoun, a protectionist first, turned free trader when he saw that the anti-slavery feeling was strongest in the Northern manufacturing States, and that the predominant agricultural interest of the South could be served by favoring Old England against New England. Moreover, slave labor was not so well adapted as free white labor to manufacturing enterprises. Hon. George McDuffie of South Carolina frankly expressed the thought that was in the minds of many Southern men of his time when he voiced his grievance against protection because it made the labor of a Northern white man worth a dollar or two a day, while the labor of the negro slave was worth 50 cents only—the Northern white man should be worth 50 cents and no more, and but for the protective tariff would not be worth more, McDuffie contended. From 1833 onward the tariff issue became more and more a combat between sections as the slavery quarrel dulled the early national spirit of the Southern States. This "History of Manufactures," written for a reunited country, pays small heed to this, and it is to be regretted as a failure to recognize due proportion. Nor is this merely a matter of history of the first half of the last century. Down to this very day the attitude of Southern public men like President Wilson himself and Senator Underwood and Chairman

Kitchin is determined, unconsciously perhaps, but none the less certainly, by the belief absorbed from Calhoun and his contemporaries that a protective tariff policy was inimical to the South because the North was first able to make the larger and more effective use of it.

But, of course, it is not to be urged that the tariff issue in the generation before the Civil War was entirely a sectional issue. Dr. Clark is entirely just in pointing out that "One cause for the political decline of protection between 1833 and 1860 is to be found in the reorganization of industry. The centralization of manufactures in large plants and within limited areas terminated the intimacy that existed between the early manufacturing movement and the common people. Large corporations were no more urgent for protection than smaller enterprises. But they represented to the public a new, strange, and unwelcome power in the business world, and long before modern trusts were known they were regarded as the embodiment of monopoly, with all its attendant evils."

It was not so strange that the North Carolina legislature should have denounced the tariff bill of 1828 as "artfully designed for the advancement of the incorporated companies of New England," or that the legislature of Alabama should formally denounce "the sponge of monopoly" that "has absorbed nearly the whole wealth of the nation," as it was that a large meeting of skilled mechanics of Philadelphia should memorialize the legislature against granting a charter of incorporation to the Vulcan Iron Works as a gift of "particular privileges to a body of men for the purpose of carrying on business beyond the reach of individual enterprise."

THE TARIFFS OF 1842 AND 1846.

In a discussion of the Walker tariff of 1846 Dr. Clark shows the prosperity that came to the wool manufacture under the protective law of 1842. "Probably the relatively high tariff on woolen goods imposed by that act, in connection with the low price of raw materials, hastened the revival of the industry from the depression following the panic of

1838. During its continuance some American woolens found a market even in Canada, in competition with those from Europe." But this prosperity of the wool manufacture was destined to be short-lived. For, as Dr. Clark goes on to say, "The Walker tariff, by taxing coarse wool, which had become a necessary dependence of manufacturers, as heavily as the goods produced from it, changed existing conditions so radically that, had the law been characterized by no other unfavorable features, the mere readjustments it compelled would have been a serious embarrassment. Though manufactures did not actually decline, they failed to keep pace with increased home consumption." Under this act Dr. Clark estimates that the net protection to our mills was only 15 per cent of the foreign value of the cloth, or less than one-half of the nominal protection of the present tariff law. "Trade statistics show," he adds, "that woolen imports increased greatly while this law (of 1846) was in force, and relatively faster than imports of many other suitable manufactures. Presumably a larger fraction of the woolen goods consumed in the country was made abroad than under any previous tariff." Even under the law of 1857, when all wool costing 20 cents a pound or less was put upon the free list, the excessive importation of woolen goods was not appreciably checked—demonstrating that even then the tariff rates remained inadequate.

A fact almost forgotten, that the boot and shoe industry whose product is now on the free list, was one of the first fruits of protection, is emphasized by Dr. Clark in the statement that "Boots and shoes were protected by almost prohibitory specific duties from the beginning of the republic until 1846, after which they were treated as other manufactures." Through accident or design the boot and shoe industry was not subject to the tariff vicissitudes that discouraged for many years the manufacture of wool, cotton, and iron. The duty on boots and shoes was steadily maintained at a point of more than adequate, "almost prohibitory," protection. This "History of Manufactures" makes a particularly close study of the development of the iron and steel

industry, and manifests familiarity with the progress of the art in Pennsylvania and other Middle States. Like the wool and cotton manufacture, the iron trade suffered grievously from frequent and senseless tariff changes. A convention of American iron masters was abundantly justified in 1850 when it said:

The most striking comparison between the legislation of Great Britain and that of the United States is the steadiness of the former . . . and the vacillation of our own measures. Our business, instead of being steady and regular, is converted into a species of adventure . . . the investment is no sooner made, and several hundred families gather around the works looking to them entirely for their support, than the law is changed, or what is almost as bad in its effects on all parties concerned, a change is talked of.

This instability more than half a century later has still been a characteristic of the tariff laws of the United States. It is the result of a vast geographical area peopled by descendants of diverse races, who still find it difficult to think and act nationally.

Prior to 1850 Great Britain was resolutely a protectionist country—the most thoroughgoing protectionist country in the world. Then until the outbreak of the present war she steadily clung to the free trade system. Now there is every indication that the British fiscal policy is again to become protectionist of a stalwart sort, and there can be no doubt that once adopted the plan will be doggedly adhered to by an essentially homogeneous population living within the narrow limits of the British Isles.

TRANSPORTATION AND MANUFACTURES.

A valuable chapter of this important work deals with the relation of transportation and markets to manufactures. "Until after the War of 1812," says Dr. Clark, "up-country freighting was by pack-trains and wagons; down-country freighting was mostly by sloops, barges, keel-boats, and 'arks; ' coastwise commerce was in small sloops, schooners, and occasionally larger vessels. So long as twenty-ton sail-

boats were deep-water craft, the coast line extended to the head of river navigation in a sense no longer true since goods are carried by steam.” Just as in this era many small Northern New England ports, now silent and sailless, sustained their own fleets of West India and other trading ships, and had a considerable foreign commerce, so then, as the author writes, “Middletown, 200 miles nearer Cuba than Boston, and 100 miles nearer the farming section of central New England and New York, was an active port for West India commerce. Hudson maintained several whaling ships; Albany traded directly with Calcutta, and even Troy supported a river fleet. Georgetown and Richmond loaded flour, and the latter city coal, on vessels that carried their cargoes without transshipment to Northern ports. Commerce, like industry, was decentralized, its mechanism operated in small units, and its service capacity was as limited as the productive activities to which it catered.”

First steamboats, then canals, then railroads, changed the methods of distribution and consequently the locations for manufacturing. In the days of pack horses and wagons, freight sent overland cost from 20 to 40 and even 60 cents a ton-mile. But the early charges of the railroads were only three cents a ton-mile, or less than one-tenth the cost of wagon carriage. In 1813 it had cost \$9 to move 100 pounds of goods from Philadelphia to Pittsburgh. In 1818 it cost \$5.56 per hundredweight to convey goods from New York to Louisville—a river and water route in small boats except for two portages. When canals made such traffic easy and continuous, the charge for carrying a barrel of flour from Pittsburgh to Philadelphia in 1833 had fallen to \$1.63, as compared with \$4 in 1819. Manufacturers were quick to realize the advantage of improved means of distribution. Thus the proprietors of the mills on the Merrimac gave \$100,000 as a bonus to the first railroad from Lowell to Boston. The Naugatuck railroad in Connecticut “was promoted by the brass manufacturers of that valley as indispensable to their enterprises, though at first they anticipated no other profit from its operation.”

THE EARLY EXPORT TRADE.

Dr. Clark notes an important contrast between American and British manufacturers in competition for export commerce in the early years of the last century. "At Birmingham, Sheffield, Manchester, and Leeds," he says, "where manufacturers had long specialized for foreign consumers, every artifice was used to produce articles of seducing cheapness for the export trade. From those factories came cast-iron cutlery, and flimsy but superficially attractive fabrics, designed expressly for foreign markets. They could be sold not only for low prices, but on long credits. On the other hand, American factories did not produce immediately for a foreign market. They sold abroad only their surplus stocks, or in order to profit by occasional opportunities out of the ordinary course of trade. The cloth they made was of materials and quality intended to maintain their reputation in the home market. American cotton exports temporarily declined about 1840, because recent mechanical improvements enabled British spinners to substitute cheap, poor, short-staple East Indian cotton for American cotton in standard export fabrics. When the high duty was imposed on wool in 1828, a Rhode Island manufacturer experimentally imported woolen yarn from England to manufacture into negro cloth for Southern buyers. But these yarns were so weighted with oil and so slack twisted that cloth made from them, though of attractive finish, lacked durability and imperiled the manufacturer's reputation with purchasers. American goods, therefore, designed primarily for home consumption, and at first exported casually to suit the convenience of an established commerce in other commodities, soon acquired a reputation for durability that gave them independent standing in foreign markets. This caused British manufacturers to imitate American brands and labels in order to profit by the reputation of their new competitors."

These conditions have remained true of the American export trade in cotton goods and many other articles at the present time. The American products have won and held their

place in foreign markets, not by the mere quality of "cheapness," but by a quality honestly maintained. The home market has demanded goods of merit because it was a market of practical, exacting people, with more money in their pockets than any similar population in the world — able to pay for a good thing and disposed by temperament to insist upon it.

Dr. Clark points out that it was from the profits of commerce that many of the early American manufacturing enterprises were established. Almy & Brown of Rhode Island he cites as an example. The members of this old and famous house were both merchants and manufacturers. Commerce served manufacturers by direct investment and by credit. But later, and in our own times, as Dr. Clark well says, "industrial capital has been its own chief progenitor." There were few tempting profits in the first essays into manufacturing, and there were violent fluctuations in values. Thus, as Dr. Clark points out, the property of the Blackstone Manufacturing Company was valued in 1813 at \$216,000; in 1814, after two years of war, at \$340,000; and in 1815, when an avalanche of British manufactures came with peace, at \$193,750. The shares of the Globe mills of Fall River, that sold in November, 1815, for \$175, brought less than \$60 seven years later. "Capitals of a million dollars or over were sometimes entirely wiped out by a few years of unsuccessful operation. . . . It was estimated in 1832 that all the money up to that time invested in American woolen mills had been lost to the original owners."

The first woolen factory at Hartford and the first cotton factory at Beverly were both failures. Yet, on the other hand, some competent early manufacturers gained considerable fortunes. Thus Samuel Slater, who arrived in America almost penniless, was credited with a competence of more than \$690,000 in the year 1825. This case and one or two others, however, were exceptional rather than typical. "In 1832 several New England mill owners testified that their returns for a series of years did not exceed 6 per cent." This corresponds closely with the average of 6.67 per cent of

profit recorded for the twenty years prior to 1909 by 45 cotton and woolen manufacturing corporations of New England, as stated in 1909 to the House of Representatives in Washington.

AFTER THE WAR OF 1812.

In view of present conjecture as to what will follow on the end of the present European war, Dr. Clark's description of industrial conditions in the United States after the adoption of the Treaty of Ghent had ended our second war with England in 1815 is anything but reassuring. He holds that the great panics in this country were "primarily money panics — thus in 1814 all banks but those in New England suspended specie payment, and a flood of paper money inflated prices." But, significantly, he adds :

Accompanying, and in part explaining these adverse conditions, was the flood of imported goods that crossed the Atlantic at the close of the war. In 1816 almost every textile mill in New England was closed. Some factories in Massachusetts and Connecticut, the Slater mill at Pawtucket, the Thurber mill at Providence, and the Lippitt mills continued practically without interruption to manufacture yarn for local users. The Lippitt mills owed their continuance to a contract with the Vermont penitentiary, where their yarn was woven by prisoners. In explanation of their suspension of operations, the directors of the Coventry mill stated that it was "owing to the high price of cotton, the low price of goods, and the difficulties attending the currency of the Middle States." Woolen manufactures were equally prostrated, their activity being reduced to supplying carded wool and yarn to neighboring households. . . .

In October, 1819, a citizens' committee in Philadelphia, after a canvass of twenty leading manufactures in that city, reported that these industries had employed 9,188 operatives in 1814, 9,672 in 1816, and but 2,137 in 1819; and that their weekly pay-roll had fallen in three years from \$58,000 to less than \$13,000. In Market street, as late as 1822, "houses of four stories, with marble steps and copper spouts, were in great numbers sold for a dollar apiece." These houses were on leased ground. In Pittsburgh the number of employees

engaged in manufacturing declined from 1,960 in 1815 to 678 in 1819, and the product of manufactures decreased from \$2,618,000 to \$832,000. According to a British traveler, "there were 1,188 persons destitute of employment, and a cry of distress was universal." Such a crisis depreciated industrial investments, scattered labor and forced it into new pursuits, interrupted established business connections, and disorganized markets. In the words of a witness:

Nearly all the manufacturing establishments of the country were broken up, their owners ruined, and their property sold at enormous sacrifices; it may be said, indeed, that nearly the whole of these establishments changed owners, and were taken up at successive abandonments and reductions of capital, all which, however, proved but successive steps to ruin.

Henry Clay said of New England:

In passing along the highway one frequently sees large and spacious buildings, with the glass broken out of the windows, the shutters hanging in ruinous disorder, without any appearance of activity, and enveloped in solitary gloom. Upon inquiry what they are, you are almost always informed that they were some cotton or other factory, which their proprietors could no longer keep in motion against the overwhelming pressure of foreign competition.

In view of these conditions it is not strange that "between 1815 and 1820 the population of Philadelphia, our largest manufacturing city, declined by 10,000."

EARLY WAGE SCALES.

Of particular interest are the results of a study which Dr. Clark presents of wages in textile mills in America and England in the early decades of the nineteenth century. He cites many authorities to prove that, contrary to the present situation, labor was little if any better paid in the new country than in the old. Here are some of his comparisons:

Men working for the Hartford Woolen Manufactory, about 1791, were paid \$3 and women \$1 a week. This was

less than the wage of skilled operatives at Manchester, England, where men earned about \$4.25 weekly, and women \$2. Such scattered data as we possess indicate no marked change in American factory wages until the War of 1812. The small mills established before that event employed few operatives and paid them at the usual rate for village labor. Young boys, working fourteen hours a day, received 42 cents a week, and women received \$1. The pay of men was relatively higher, as an established market existed for their labor. Weavers received the same rate as when they wove homespun yarn for colonial households, and earned from 30 to 50 cents a day. In 1817 the Boston Manufacturing Company at Waltham paid department superintendents \$12 a week, and machinists from \$6 to \$11, card-room employees from \$2.50 to \$16, most of the spinners \$2.50, while weavers earned from \$4 to \$5. The earnings of mule-spinners in one instance reached \$21. Faactory pay in America was in some cases lower than in Great Britain. Women and girls in the Waltham spinning-rooms averaged \$3.23, while those in Manchester were paid from \$2.50 to \$3.75. In many small mills wages were much lower. At Fall River carders and spinners were paid \$2.33 a week and weavers \$2.50. In 1820 woolen operatives at Peacedale received from \$9 to \$12 a month, which was the rate paid farm hands.

According to a comparison of wages about 1825, in New England cotton mills mule-spinners earned from \$1.08 to \$1.40, and in Great Britain \$1.02; while in woolen mills they earned \$1.08 and 94 cents respectively. Hand-loom weavers earned 90 cents in America as compared with 74 cents abroad. Wages for women operatives were \$2.50 and \$3 in this country and were slightly under \$2 in Great Britain. In 1827 the weavers' society of Philadelphia reported that the average earnings of 5,000 or 6,000 hand-loom weavers, dyers, and warpers in that city were \$5 a week. They remained at this rate some ten years longer, and then were forced down by the competition of power-looms, so that in 1846 they were said not to exceed \$2.50. The New York Convention of 1831 reported the average wage of cotton mill workers as \$3 a week. A year later the average weekly wages of cotton operatives in England were \$2.57. But mill-hands worked shorter hours in England than in America, where the factory day, like factory pay, was measured by farming standards. In large Massachusetts and New Hampshire mills, where wages were highest, women and girls, between 1830 and 1860, earned from \$1.75 to \$2 a

week in addition to board. Men received about \$5 a week, and children between \$1 and \$2. Wages were lower in Philadelphia than in Massachusetts, and lower in Virginia and South Carolina than in Philadelphia.

That is to say, the machinery ran as long as daylight lasted and longer in the winter season. These were the "good old times" so much vaunted and so little understood by the present generation. And these were the wages and these were the hours when men, women, and children who worked in textile factories were predominantly of native stock, "with some recruits from Great Britain and Ireland." In 1826, out of 612 operatives at Fall River, only 38 were foreigners. "As late as 1842 at Lowell, out of 1,500 employees in the Merrimack Mills, only 50 were foreigners — all of these were British or Irish."

First of all the modern factories of America was the cotton mill of the Boston Manufacturing Company at Waltham. "It differed from previous establishments of equal size, either here or abroad," says Dr. Clark, "in performing all operations of cloth-making by power at a central plant. Labor was specialized and workers were organized by departments. Wages were paid in cash, output standardized, cost accounting introduced, and buying and selling systematized. In a word, the commercial, technical, and operative elements of a factory were brought together in accordance with an intelligent plan and so coördinated as to make a more efficient producing unit than had hitherto existed in this country. Manufacturing was specialized completely and no longer retained even subordinate relations with household industry or general merchandising." The Middlesex Company, organized at Lowell in 1830, was the first woolen establishment to adopt fully the Waltham system. Before 1860 the largest textile factories in America made woolen goods — the Bay State Mills of Lawrence started in 1848 and the Pacific Mills in 1853.

CONCLUSIONS OF THE AUTHOR.

In summing up the record of our industrial growth up to the Civil War, Dr. Clark states that "While the nation applied relatively less productive energy to manufacturing in 1860 than did some nations of Europe, the net return from this activity exceeded \$800,000,000. Portions of the United States were as highly industrialized as Great Britain itself, though these areas were dwarfed in contrast with the continent of farms and forests of which they formed a part. Most of our manufactures were used at home; they formed but one-tenth of our exports and we bought far more commodities of this kind from foreigners than we sold to them."

What the author adds is a just portrayal of one of the most vital results of our growth in manufacturing:

However, when the Civil War broke out, the North had a mechanical equipment easily extended to meet the nation's needs. The territorial cleavage of that crisis left the manufacturing districts of the Union in a single section, where they acquired an influence that enabled them thereafter to dominate public policies. Despite an experimental interest in national industry during the twenties, and a brief revival of protectionist control in 1842, our government retained the sympathies and programs of an agricultural Commonwealth until 1860; after that it was guided by the interests of an industrial State. If public policies express facts of national economy, we were just beginning at that date to be a manufacturing nation; and the history we now close of the preceding period is but a study of origins — a prologue to the narrative of the greater things that followed.

It is a fair verdict upon the great work, whose contents have been summarized, that it has been adequately performed in a spirit of painstaking fairness. It betokens a tireless industry. The style is lucid and condensed. There is an unusually full citation of authorities, page by page. Sustained by the Carnegie liberality, which permits deliberate and exhaustive research, Dr. Clark has created a volume which will stand for many years as the foremost book of reference

in this field of knowledge. His study of the wool manufacture is particularly full and careful, for he has found a more complete record here than in some other departments, but all important manufacturing interests are comprehended. The study of the development of the manufacture of metals covers a wide geographical range, and brings out the salient facts of what has become perhaps the most distinctive and advanced of our present national industries. Dr. Clark has produced a work that is both satisfying to the critic and interesting to the business man.

THE NEW DYESTUFF LAW.

A BLUNDER TO THE END, AND ANOTHER FAILURE TO MEET THE SITUATION.

As finally worked out by the Conference Committee of Senate and House and signed by President Wilson, the dyestuff section of the new revenue law, approved September 8, 1916, is unsatisfactory to American textile manufacturers, and is emphatically condemned by American chemists. Of course it was not to be anticipated that any adequate result would come from public men, who like President Wilson, Secretary Redfield, Chairman Simmons, and Chairman Kitchin, were at heart utterly opposed to all protection or any thought of it, and were considering the whole question as a matter of temporary expediency and not of fundamental principle.

The exact text of the new dyestuff schedule, which makes up Title V. of the Administration revenue law, is as follows :

TITLE V. — DYESTUFFS.

Sec. 500. That on and after the day following the passage of this Act, except as otherwise specially provided for in this title, there shall be levied, collected, and paid upon the articles named in this section when imported from any foreign country into the United States or into any of its possessions, except the Philippine Islands and the islands of Guam and Tutuila, the rates of duties which are prescribed in this title, namely:

Free List.

Group I. Acenaphthene, anthracene having a purity of less than twenty-five per centum, benzol, carbazol having a purity of less than twenty-five per centum, cresol, cumol, fluorene, metacresol having a purity of less than ninety per centum, methylanthracene, methylnaphthalene, naphthalene having a solidifying point less than seventy-nine degrees centigrade, orthocresol having a purity of less than ninety per centum, paracresol having a purity of less than ninety

per centum, pyridin, quinolin, toluol, xylol, crude coal tar, pitch of coal tar, dead or creosote oil, anthracene oil, all other distillates, which on being subjected to distillation yield in the portion distilling below two hundred degrees centigrade a quantity of tar acids less than five per centum of the original distillate, and all other products that are found naturally in coal tar, whether produced or obtained from coal tar or other source, and not otherwise specially provided for in this title, shall be exempt from duty.

Dutiable List.

Group II. Amidonaphthol, amidophenol, amidosalicylic acid, anilin oil, anilin salts, anthracene having a purity of twenty-five per centum or more, anthraquinone, benzoic acid, benzaldehyde, benzylchloride, benzidin, binitrobenzol, binitrochlorobenzol, binitronaphthalene, binitrotoluol, carbazol having a purity of twenty-five per centum or more, chlorophthalic acid, cumidin, dimethylanilin, dianisidin, dioxynaphthalene, diphenylamin, metacresol having a purity of ninety per centum or more, methylanthraquinone, metanilic acid, naphthalene having a solidifying point of seventy-nine degrees centigrade or above, naphthylamin, naphthol, naphthlenediamin, nitrobenzol, nitrotoluol, nitronaphthalene, nitranilin, nitrophenylenediamin, nitrotoluylenediamin, orthocresol having a purity of ninety per centum or more, para-cresol having a purity of ninety per centum or more, phenol, phthalic acid, phthalic anhydride, phenylenediamin, phenyl-naphthylamin, resorcin, salicylic acid, sulphanic acid, toluidin, tolidin, toluylenediamin, xylidin, or any sulphoacid or sulphoacid salt of any of the foregoing, all similar products obtained, derived, or manufactured in whole or in part from the products provided for in Group I., and all distillates which on being subjected to distillation yield in the portion distilling below two hundred degrees centigrade a quantity of tar acids equal to or more than five per centum of the original distillate, all the foregoing not colors, dyes, or stains, photographic chemicals, medicinals, flavors, or explosives, and not otherwise provided for in this title, and provided for in the paragraphs of the Act of October third, nineteen hundred and thirteen, which are hereinafter specifically repealed by section five hundred and two, fifteen per centum ad valorem.

Group III. All colors, dyes, or stains, whether soluble or not in water, color acids, color bases, color lakes, photographic chemicals, medicinals, flavors, synthetic phenolic

resin, or explosives, not otherwise specially provided for in this title, when obtained, derived, or manufactured in whole or in part from any of the products provided for in Groups I. and II., natural alizarin and indigo, and colors, dyes, or color lakes obtained, derived, or manufactured therefrom, thirty per centum ad valorem.

Sec. 501. That on and after the day following the passage of this Act, in addition to the duties provided in section five hundred, there shall be levied, collected, and paid upon all articles contained in Group II. a special duty of $2\frac{1}{2}$ cents per pound, and upon all articles contained in Group III. (except natural and synthetic alizarin, and dyes obtained from alizarin, anthracene, and carbazol; natural and synthetic indigo and all indigoids, whether or not obtained from indigo; and medicinals and flavors), a special duty of 5 cents per pound.

During the period of five years beginning five years after the passage of this Act such special duties shall be annually reduced by twenty per centum of the rate imposed by this section, so that at the end of such period such special duties shall no longer be assessed, levied, or collected; but if, at the expiration of five years from the date of the passage of this Act, the President finds that there is not being manufactured or produced within the United States as much as sixty per centum in value of the domestic consumption of the articles mentioned in Groups II. and III. of section five hundred, he shall by proclamation so declare, whereupon the special duties imposed by this section on such articles shall no longer be assessed, levied, or collected.

Sec. 502. That paragraphs twenty, twenty-one, twenty-two, and twenty-three, and the words "salicylic acid" in paragraph one of Schedule A of section one of an Act entitled "An Act to reduce tariff duties and to provide revenue for the government, and for other purposes," approved October third, nineteen hundred and thirteen, and paragraphs three hundred and ninety-four, four hundred and fifty-two, and five hundred and fourteen, and the words "carbolic" and "phthalic," in paragraph three hundred and eighty-seven of the "free list" of section one of said Act, and so much of said Act or any existing law or parts of law as may be inconsistent with this title are hereby repealed.

Not only is the hostile provision of the House bill retained, making an annual reduction of 20 per cent of the specific

duties on intermediates and dyestuffs after five years, and requiring that if after five years it is found that less than 60 per cent in value of these intermediates and dyestuffs is produced in the United States the specific duties are to be abandoned, but the new legislation denies the specific duty to "natural and synthetic alizarin, and dyes obtained from alizarin, anthracene, and carbazol, natural and synthetic indigo and all indigoids, whether or not obtained from indigo, and medicinals and flavors."

These substances are left subject only to the 30 per cent ad valorem duty. In other words, effective protection is denied to them. It is thoroughly well understood that the exclusion of indigo and alizarin from the specific duty of five cents a pound is primarily due to the opposition of one politically powerful Southern cotton manufacturer. As Dr. W. Beckers, of the Beckers Aniline & Chemical Works of Brooklyn, says, "It is a disgrace that one man can swing the whole matter. But the domestic dyestuff manufacturers are not worrying about anything the Democrats do. Only a few more months, and we will have a new Administration and then proper protection."

In view of all that anti-protectionists have said about the dominating influence of a few manufacturers in shaping Republican tariff laws — an accusation either wholly dishonest or grotesquely exaggerated — the success of one man from the South in defeating a large part of the purpose of the new dyestuff rates is most significant. This gentleman is a large user of indigo dyes, and he appears to be more potent in the Democratic councils than all the dyestuff manufacturers and all the other textile manufacturers in the United States. Textile mills generally, in the light of their war experience, were more than willing that adequate protective duties should be placed upon dyestuffs in order to create a proper industry in this country, even though the result might be a temporary increase in the cost of dyeing fabrics. But the earnest request of the textile industry as a whole was ignored, and the demand of one Southern manufacturer was granted. It is to be hoped that no more will be heard

from Democratic and anti-protectionist quarters about "selfish and sinister influences" in the making of tariffs. That particular accusation must apparently be extinguished for evermore.

What intelligent expert American opinion holds as to the crooked and stupid new dyestuff legislation is shown in the resolutions of the special committee of the American Chemical Society, as follows :

Whereas, The revenue bill (Title V. Dyestuffs) which recently passed the Senate, after hearings of representatives of producers and consumers, accorded to all classes of dyestuffs without exception an ad valorem duty of 30 per cent and a specific duty of 5 cents, and

Whereas, In the final conference between the House Ways and Means Committee and the Finance Committee of the Senate, and without further hearings, "natural and synthetic alizarin and dyes obtained from alizarin, anthracene and carbazol, natural and synthetic indigo and all indigoids whether or not obtained from indigo, and medicinals and flavors" were made exceptions and to carry no specific duty and to have only the 30 per cent ad valorem duty.

The dyestuff conference of the American Chemical Society, in a meeting held in New York, September 27, without a single dissenting vote condemns the exception of these dyestuffs from this specific duty, as this exception undermines the very foundation upon which it was hoped that the American dyestuff industry might be built. It makes it impossible for the American manufacturer to meet the requirements of this bill "if, at the expiration of five years from the date of passage of this Act, the President finds that there is not being manufactured or produced within the United States as much as 60 per cent in value of the domestic consumption of these articles, he shall by proclamation so declare, whereupon the special duty imposed by this section on such articles shall no longer be assessed, levied, or collected" ;

Therefore be it resolved, That we condemn the removal of these dyestuffs from the special tariff accorded them by the Senate as detrimental to the establishment and development of the American dyestuff industry and subversive of the best interests of the American people.

It is probable that alizarin and indigo have constituted 25 to 35 per cent of the dyes which Germany in normal years has sent to the United States. The denial of the specific duty to American manufacturers of these materials will permit the reorganized and strengthened German monopoly to dominate the American market in these materials when the war has ended. Representative Hill's dyestuff bill, which the anti-protectionists in Congress rejected, was a measure heartily approved in principle and in most of its details by all dyestuff and textile manufacturers. It embodied the results of a frank and thorough study of the question. Its rates were adequate. Its intent was honest. But the shuffling action of the present anti-protectionist majority in Congress — or, it would be more accurate to say, of the majority dominated by sectional anti-protectionists — has disappointed and disgusted all those who have practical knowledge of the situation. To men of business everywhere the new dyestuff law is another convincing argument that the men who framed it and the political party that is responsible for it are unfit to be entrusted with the business affairs of a great nation.

What hope exists to-day of the development of a strong and sufficient dyestuff-making industry in the United States rests wholly upon the return of the protectionist party to full power in Washington. There has never been a time in our history when the textile manufacture and its allied industries were so unitedly opposed to one political party and in favor of the success of another political party as now in this year 1916. Under normal conditions some textile manufacturers are Democrats, and it is well that they are, for it is not well for the United States that business men in general should all be of one political affiliation. Both political parties need an element of practical wisdom in their membership and leadership, and historically both political parties have had it. Even in New England, down through the years to the present time, a respectable proportion of successful business men have been Democrats in their party.

faith. It is an unfortunate thing for the Democratic party and for the country that so many of these men, probably now nearly all of them, have been driven out of the Democratic party by the ignorance or sectionalism of its national managers.

The course pursued by the national Democratic leaders in the handling of this dyestuff situation — a course manifesting not only ignorance, but a perverse hostility to the prosperity and economic independence of the United States — has very greatly intensified the movement of Democratic business men away from their own party toward the Republican party. It is very significant and a matter of every-day comment, that the great textile business in the city of New York in this present national campaign has been more nearly unanimous in favor of the Republican candidates and the Republican platform than ever before in history. Those who have come out pronouncedly in favor of the protectionist cause have included not only practically all American manufacturers, but many of the strong importing houses of the highest standard, whose interests in the passing years have come to be more and more thoroughly identified with the welfare of the United States.

The fatuous course of this present National Administration is all the more difficult to comprehend because of the attitude of foreign nations, including Great Britain, whose free-trade predilections have been quite cast away, in view of the situation with which the textile industries of the world are now confronted. Preparing for the end of the war, the German dyestuff manufacturers, whose world-monopoly has always been strongly assisted by their government, have united into one group their two main groups of producers of aniline dyes. It is asserted that this step was taken at the direct request of the Imperial authorities, and that the total capital represented by the enlarged combination is nominally \$100,000,000, but actually, as measured by stock exchange values, \$250,000,000. The American consul at Frankfort states that a part of the motive of the new combination is

"to better enable meeting new conditions that have arisen and are likely after the war, including increased competition." The plan of the new combination is, first, to exchange trade secrets and to reduce to the lowest possible figure the production costs of all the constituent concerns, and, second, to "dump" products after the war into every nation where a dangerous competitive industry is developing.

The British government proposes to meet this attack by the absolute prohibition of the import of German dyes after the war has ended. Similar action is contemplated in France. The British Parliament soon after the war broke out granted a large subsidy of \$7,500,000 for the purpose of creating a British dyestuff corporation. A considerable sum of private capital has been subscribed, and much progress has already been made in the increase of the British dye output. The best experts in the United Kingdom have been summoned by the government to aid the new concern. A committee appointed by the Board of Trade has made an exhaustive inquiry into the requirements of the country. New dyestuff plants have been erected and others are in process of completion. Large quantities of raw materials have been furnished to Swiss dyestuff manufacturers, on condition that the resulting finished products be reserved for British use. The British dyestuff industry is working, under the supervision of its government, in coöperation with the national dyestuff company of France, which is supported by the French government. An agreement between the British and the French dyestuff organizations calls for a complete exchange of knowledge and processes, and for the ultimate formation of a huge interallied company to assist both countries in the production of intermediates and dyes.

This is the prudent, patriotic, systematic way in which Great Britain and France are moving to meet the situation. But President Wilson and his lieutenants propose that the United States shall be left to the mercy of the German trust by the present lame and altogether ineffective legislation of their Democratic Congress. Not only have our present

national lawmakers in this country utterly failed to realize the urgency of the problem, but they are constitutionally incapable of meeting it if they did have a proper realization of its gravity — for they are gagged and shackled by ancient ante-bellum prejudices, the falsity of which the whole world has now recognized and which the whole world is now discarding.

WINTHROP L. MARVIN.

ACTIVE AND IDLE MACHINERY.

A CONSIDERABLE INCREASE OF UNEMPLOYMENT ON
SEPTEMBER 1, AS COMPARED WITH THE TWO
QUARTERS PRECEDING.

SOME disappointment attended the season that opened on July 1, 1916, and the result is reflected in the returns of the quarterly census of active and idle machinery prepared by the National Association of Wool Manufacturers for September 1, 1916. Just as the figures for June 1 showed a slight falling off in activity as compared with March 1 preceding, so the figures of September 1 manifest again a larger proportion of idleness. But something more than particular trade conditions are responsible for this. Because of the munitions business in its immediate and remoter consequences, there is a scarcity of labor for the woolen mills, and in replying to the inquiry of September 1 not a few manufacturers took occasion to comment on the unusual fact that some of their machinery was idle, not because of any lack of orders in hand, but because there actually were not enough employees available to operate the looms, spindles, etc. This is a condition not confined to the textile industry, but general in manufacturing trades throughout the United States. It was observed in the inquiry three months ago that foreign military orders had virtually disappeared, and there is no sign of a renewal of them in the machinery reports of September 1.

MACHINERY.

Total Number Reported.	In Operation.	Idle.
September 1, 1916.		
Looms, wider than 50 in. reed space	38,001	31,164
Looms, 50 in. reed space, or less	13,600	11,615
Looms, carpet	2,808	2,077
Woolen cards, sets	3,116	2,775
Worsted combs	1,665	1,451
Woolen spinning spindles	1,021,075	885,335
Worsted spinning spindles	1,865,783	1,665,356
		200,427

So that the proper comparison may be made, there is published below the relative per cent of idle machinery to total machinery reported for each of the quarters from December 1, 1914, to September 1, 1916, inclusive. Here in a single statement appears the record of the improvement in American wool manufacturing occasioned by the great war and the partial cessation of the European competition, which had proved so disastrous under the new tariff for revenue only in the first seven months of the calendar year 1914. This improvement did not really set in in earnest until the war was almost a year old, or about June 1, 1915. By September 1, 1915, there had been a little improvement, but the gain was marked afterward until the spring of 1916. Since then there has been a decline, real and unmistakable. That 18 per cent of the broad looms of the country were idle on September 1 last, indicates a condition far from satisfactory.

It is believed in some quarters that there has been an increase of activity since September 1. Wool manufacturers, as a rule, are hopeful of a change in the National Administration and the control of Congress that will next year place all American industries on a secure protective basis before the war is over. This feeling may perhaps be reflected in the improved confidence which many veterans of the trade believe has developed since September 1. The proportions of idle machinery to total machinery reported for the eight quarters from December 1, 1914, to September 1, 1916, are as follows:

MACHINERY.	Per Cent of Idle to Total Reported.							
	Sept. 1, 1916.	June 1, 1916.	Mar. 1, 1916.	Dec. 1, 1915.	Sept. 1, 1915.	June 1, 1915.	Mar. 1, 1915.	Dec. 1, 1914.
Looms, wider than 50 in. reed space . . .	18.	13.9	12.1	16.8	26.7	30.4	32.7	27.7
Looms, 50 in. reed space, or less . . .	10.6	6.7	7.7	20.2	31.2	25.9	32.	30.
Looms, carpet	26.	17.6	17.1	19.6	24.	24.5	45.8	48.9
Woolen cards, sets . . .	10.9	12.7	7.3	8.8	15.5	17.7	22.7	30.
Worsted combs . . .	12.9	10.	7.9	14.2	14.	30.	29.4	41.3
Woolen spinning spindles	13.3	9.8	9.3	8.6	14.2	17.4	21.5	31.6
Worsted spinning spindles	10.8	11.	7.9	15.6	17.	39.6	33.	33.

THE UNITED STATES CENSUS FOR 1915.

THE United States Census of manufactures for 1915, the second quinquennial, the first having been taken for 1905, covers the manufacturing data for the country for the year ending December 31, 1914, or where that was not possible, the twelve-month period most nearly corresponding to it.

The importance of these quinquennial reports, covering as they do the intermediate periods between the regular decennial censuses, can hardly be over-estimated. They show the manufacturer, the business man, and the statistician the progress of industry by five-year periods, and thus enable them to form better judgments of the effects of various causes, and to better forecast the future, than is possible when the data for the ten-year periods only are available. Then, again, the interval being so much shorter, conditions between the dates of the various reports are less liable to be markedly different, and if they do differ the points of difference are more in mind, and due allowance can more readily be made in the shorter than in the longer intervals. It may very well be that conditions at either of the dates beginning or closing a five or ten-year period may be subject to influences that so greatly modify affairs as to make the date an unsatisfactory one for a census inquiry. Business may be abnormally active, or the reverse, either at the beginning or ending of a census period, and if so, conclusions drawn must be more or less influenced by statements which do not allow for existing conditions. Again, both beginnings and endings may be unusually active, or the reverse. The shorter the interval, therefore, between reports the more readily can allowance be made by investigators for such facts. For instance, the year 1899, which the 1900 census covers, was one of great prosperity, and so also the year 1909, which followed the panic of 1907, was one in which the business of the country had recovered its normal activity and was

unusually well employed. Comparisons for those years are not unfair, but the year 1914, for which the material for the 1915 census was gathered, was a most extraordinary one. The first seven months were suffering under the blight of the tariff revision of 1913, which reduced duties all around and was planned to encourage foreign competition with domestic manufactures, a purpose in which it was preëminently successful. This is shown by a comparison of the figures of imports of manufactures ready for consumption for the first seven months of several years as follows:

Imports of manufactures ready for consumption, first seven months of —

1914	\$255,861,254
1913	216,599,582
1912	208,395,523
1911	195,018,277
1910	209,011,243
1909	185,755,834

Had it not been for the European war which broke out in August the deleterious effects of the tariff of 1913 would have been even more pronounced. As it was there was a stagnation in business, increasing month by month until the business of the country began to realize that the war was operating to a large extent as a prohibitive tariff, and then in the closing months of the year began an era of unparalleled employment in nearly every line of industry. Thus this census year was not one of normal manufacturing conditions. While, therefore, comparisons may be safely made between the facts disclosed in the 1900 and 1910 censuses, for the reasons stated, comparisons of the results of the 1915 census with those of 1900 and 1910 can hardly be satisfactory, although as a record of actual conditions the report is very valuable.

The report on the general manufactures of the country is here reproduced and is followed by preliminary reports on the wool manufacture and its several branches. The detailed reports, for Carpets and Rugs and for Wool Shoddy, having been issued earlier by the Census Bureau were printed in

the July Bulletin, but for these some of the most important statements were not ready at that time and are printed in this connection. The reports for the entire Wool Manufacture and its several branches; Woolens and Worsted Fabrics, Felts, Wool-felt Hats, and Fur-felt Hats which are closely allied, with additional statistics for Carpets and Rugs, and Wool Shoddy are here given.

It is to be regretted that so long an interval has elapsed between the collection of the data and the issuing of the reports, but the immensity of the task seems to make an earlier publication of the returns impossible.

The work has been done under the direction of Hon. Samuel L. Rogers, Director of the Census, and the special supervision of Mr. William M. Steuart, who has had a long experience in the Census Bureau and has held for many years the office of Chief Statistician for Manufactures, a fact in itself a sufficient guarantee of the carefulness and thoroughness with which the work has been performed.

MANUFACTURES IN THE UNITED STATES.

A preliminary statement of the general results of the census of manufactures for the United States has been issued by the Bureau of the Census. It consists of a summary comparing the figures for 1909 and 1914 which are subject to such change and correction as may be found necessary from a further examination of the original reports.

The census of 1914, like that of 1909 with reference to manufactures, excluded the hand trades, the building trades, and the neighborhood industries, and took account only of establishments conducted under the factory system. In the last census also, as in that for 1909, statistics were not collected for establishments having products for the census year valued at less than \$500, except that reports were taken for establishments idle during a portion of the census year, or which began operation during that year, and whose products for such reason were valued at less than \$500.

The word "establishment" as used in the census reports may mean more than one mill or plant, provided they are owned or

controlled and operated by a single individual, partnership, corporation, or other owner or operator, and are located in the same town or city.

The reports were taken for the calendar year ending December 31, 1914, wherever the system of bookkeeping permitted figures for that period to be secured, but when the fiscal year of an establishment differed from the calendar year a report was obtained for the operations of that establishment for its fiscal year falling most largely within the calendar year 1914.

PERCENTAGES OF INCREASE.

The population of the United States at the census of 1910 was 91,972,266, and it is estimated that it was 98,781,000 on July 1, 1914.

The summary shows increases at the census of 1914, as compared with that for 1909, for all items except proprietors and firm members, for which a slight decrease is shown.

In the order of their importance, from a percentage standpoint, the increases for the several items rank as follows: Salaries, 37.2 per cent; capital, 23.7 per cent; salaried employees, 22 per cent; primary horsepower, 20.7 per cent; wages, 19 per cent; materials, 18.3 per cent; value of products, 17.3 per cent; value added by manufacture, 15.8 per cent; wage earners, 6.4 per cent; and number of establishments, 2.7 per cent.

CAPITAL INVESTED.

The capital invested, as reported in 1914, was \$22,790,880,000, a gain of \$4,362,610,000, or 23.7 per cent, over \$18,428,270,000 in 1909. The average capital per establishment was approximately \$83,000 in 1914 and \$69,000 in 1909. In this connection it should be stated that the inquiry contained in the census schedule calls for the total amount of capital, both owned and borrowed, invested in the business, but excludes the value of rented property, plant, or equipment which was employed in the conduct of manufacturing enterprises. In the final bulletins and reports the rental paid for such property will be shown separately.

COST OF MATERIALS.

The cost of materials used was \$14,368,089,000 in 1914, as against \$12,142,791,000 in 1909, an increase of \$2,225,298,000, or

18.3 per cent. The average cost of materials per establishment was approximately \$52,000 in 1914 and \$45,000 in 1909. In addition to the component materials which enter into the products of the establishment for the census year there are included the cost of fuel, mill supplies, and rent of power and heat. The cost of materials, however, does not include unused materials and supplies, bought either for speculation or for use during a subsequent period.

The census inquiry does not include amounts paid for miscellaneous expenses, such as rent of offices, royalties, insurance, ordinary repairs, advertising, traveling expenses, or allowance for depreciation.

VALUE OF PRODUCTS.

The value of products was \$24,246,323,000 in 1914 and \$20,672,052,000 in 1909, the increase being \$3,574,271,000, or 17.3 per cent. The average per establishment was approximately \$88,000 in 1914 and \$77,000 in 1909.

The value of products represents their selling value or price at the plants as actually turned out by the factories during the census year and does not necessarily have any relation to the amount of sales for that year. The values under this head also include amounts received for work done on materials furnished by others.

VALUE ADDED BY MANUFACTURE.

The value added by manufacture represents the difference between the cost of materials used and the value of the products manufactured from them. The value added by manufacture was \$9,878,234,000 in 1914 and \$8,529,261,000 in 1909, the increase being \$1,348,973,000, or 15.8 per cent. The value added by manufacture formed 40.7 per cent of the total value of products in 1914, and 41.3 per cent in 1909.

SALARIES AND WAGES.

The salaries and wages amounted to \$5,367,249,000 in 1914 and to \$4,365,613,000 in 1909, the increase being \$1,001,636,000 or 22.9 per cent.

The number of salaried employees was 964,217 in 1914, as compared with 790,267 in 1909, making an increase of 173,950, or 22 per cent.

The average number of wage earners was 7,036,337 in 1914 and 6,615,046 in 1909, the increase being 421,291, or 6.4 per cent.

The maximum number of wage earners (7,242,752) for 1914 were employed during March, while the maximum number (7,006,853) for 1909 were employed during November. The minimum number of wage earners (6,640,284) reported for 1914 were employed during December and the minimum number (6,210,063) for 1909 were employed during January.

SUMMARY FOR THE UNITED STATES.

A comparative summary for the United States for 1909 and 1914 follows:

	CENSUS.		Per Cent of In- crease 1909-1914. ¹
	1914.	1909.	
Number of establishments	275,793	268,491	2.7
Persons engaged in manufactures	8,265,426	7,678,578	7.6
Proprietors and firm members	264,872	273,265	-3.1
Salaried employees	964,217	790,267	22.0
Wage earners (average number em- ployed during the year)	7,036,337	6,615,046	6.4
Wage earners, by months:			
January	7,075,682	6,210,063	• • • • •
February	7,141,594	6,297,627	• • • • •
March	7,242,752	6,423,517	• • • • •
April	7,217,320	6,437,633	• • • • •
May	7,148,650	6,457,279	• • • • •
June	7,100,368	6,517,469	• • • • •
July	7,018,567	6,486,676	• • • • •
August	7,020,682	6,656,933	• • • • •
September	7,086,804	6,898,765	• • • • •
October	7,006,342	6,997,090	• • • • •
November	6,736,699	7,006,853	• • • • •
December	6,640,284	6,990,652	• • • • •
Primary horsepower	22,537,129	18,675,376	20.7
Capital	\$22,790,880,000	\$18,428,270,000	23.7
Services	5,367,249,000	4,365,613,000	22.9
Salaries	1,287,917,000	938,575,000	37.2
Wages	4,079,332,000	3,427,038,000	19.0
Materials	14,368,089,000	12,142,791,000	18.3
Value of products	24,246,323,000	20,672,052,000	17.3
Value added by manufacture (value of products less cost of materials)	9,878,234,000	8,529,261,000	15.8

¹ A minus sign (-) denotes decrease.

WOOL MANUFACTURES.

As in other similar reports, the figures are preliminary and subject to such change and correction as may become necessary upon further examination of the original reports.

The woolen and worsted goods industries are the most important branches of wool manufactures. The remaining industries comprised with this group are the carpet and rug industry, the felt-goods industry, and the wool-felt hat industry. The remanufacture of wool fiber from rags, tailors' clippings, and all kinds of mill waste, constituting the shoddy industry, is not included in wool manufactures, since the product is only in a partially finished form and is used as a material in the woolen, carpet, and other industries comprised in this group. The statistics for shoddy (recovered wool fiber) and carpets and rugs have already been published.¹

The total output of wool manufactures for the United States in 1914 was valued at \$464,249,813, of which amount the value of goods made by woolen and worsted mills constituted \$379,484,379, or 81.7 per cent. The number of establishments and value of products for all branches of wool manufactures for 1914 and 1909 are shown in the following table:

WOOL MANUFACTURES IN THE UNITED STATES: 1914 AND 1909.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.		VALUE OF PRODUCTS.		
	1914.	1909.	1914.	1909.	Per Cent of Increase (+) or Decrease (-), 1909-1914.
Worsted (combed wool) goods	294	324	\$275,668,474	\$312,624,663	-11.8
Woolen (carded wool) goods	501	587	103,815,905	107,118,558	-3.8
Carpets and rugs	97	139	69,128,185	71,188,152	-2.9
Felt goods	53	43	13,692,765	11,852,626	+15.5
Wool-felt hats	30	31	1,944,484	4,382,411	-55.6
Total	975	1,124	\$464,249,813	\$507,166,710	-8.4

¹ See page 256.

WOOLEN AND WORSTED GOODS.

MATERIALS.

In the woolen and worsted industries there was a decrease from 1909 to 1914 in the total amount of wool used, the consumption of domestic wool (in condition in which purchased) decreasing from 310,602,279 pounds to 266,634,390 pounds, or by 14.2 per cent, while that of foreign wool increased from 164,153,087 pounds to 168,093,685 pounds, or by 2.4 per cent. The amount of scoured wool, equivalent to the foregoing items, decreased from 290,706,970 pounds to 257,448,746 pounds, or by 11.4 per cent.

The decrease in the amount of raw and scoured wool used was to some extent offset by an increase in the consumption of wool in partially manufactured form. The purchased noils and wool waste used in 1914, 38,881,960 pounds, exceeded that in 1909 by 49.1 per cent; the purchased wool shoddy used in 1914, 26,276,924 pounds, represented an increase of 22.5 per cent over the corresponding figure for 1909; and the purchased rags, clippings, etc., used in 1914, 59,425,149 pounds, was greater by 47.1 per cent than the amount of these materials used in 1909. These rags, clippings, etc., were made into 40,080,255 pounds of reclaimed wool fiber (shoddy).

The quantity of purchased tops used in 1914 also showed a decided increase over that consumed in 1909; for the earlier year 20,828,245 pounds were reported, while 29,106,307 pounds were used in the later year, the increase amounting to 39.7 per cent. Worsted yarn, however, showed a decrease from 59,148,771 pounds to 53,626,797 pounds, or 9.3 per cent, during the five-year period. Of these two materials, practically all is consumed by the worsted (combed wool) industry. Small amounts of woolen and of merino (cotton mixed) yarn were also purchased as such for use in these industries.

Of materials other than wool which are used in the woolen and worsted industries, cotton forms the largest portion. The quantity of raw cotton consumed increased from 20,024,061 pounds in 1909 to 28,387,022 pounds in 1914, or by 41.8 per cent. The purchased cotton yarn used, on the other hand, decreased during the same period from 39,169,388 pounds to 32,105,412 pounds, or by 18 per cent.

Raw wool, raw cotton, noils, shoddy, hair, etc., were spun in the mills, either for sale as yarn or for further use in the weaving of fabrics. In 1914 the mills made for their own consumption 128,710,245 pounds of woolen yarn, 75,901,071 pounds of worsted, 39,361,200 pounds of merino (cotton mixed), and 7,575,057 pounds of cotton yarn.

The other industries included in wool manufactures, viz., carpets and rugs, felt goods, and wool-felt hats, consumed 68,129,258 pounds of wool (in condition in which purchased), amounting when scoured to 50,257,186 pounds. These figures represent decreases of 12.4 per cent and 18.6 per cent, respectively, as compared with the corresponding ones for 1909.

PRODUCTS.

A number of mills make both woolen and worsted fabrics. Such establishments are classified in one industry or the other, according to the group in which their products of chief value belong.

The largest class of goods manufactured by the establishments in these industries consists of fabrics designed to be made into clothing. At previous censuses this class of goods has been divided into three sub-classes: (a) Goods designed for men's suitings; (b) those designed for women's dress goods; and (c) those used for overcoatings and cloakings. At the present census, however, in spite of earnest efforts on the part of the bureau, some of the large manufacturers found it impossible to make the desired classification; consequently, only the total for this sort of goods can be shown.

The all-wool woolen fabrics of the kind just mentioned, manufactured in 1914, amounted to 90,950,381 square yards, valued at \$55,660,503, representing an increase of 7.4 per cent in quantity and a decrease of 2.2 per cent in value, as compared with 84,641,705 square yards, valued at \$56,907,413, in 1909. The production of all-wool worsted fabrics decreased from 226,110,822 square yards, valued at \$156,755,217, in 1909, to 222,327,115 square yards, valued at \$141,778,035, in 1914, or by 1.7 per cent in quantity and 9.6 per cent in value.

Cotton-warp woolen fabrics made for use as clothing decreased from 60,136,428 square yards, valued at \$15,621,015, in 1909, to

47,398,289 square yards, valued at \$13,598,007, in 1914, or by 21.2 per cent in quantity and 12.9 per cent in value. Cotton-mixed goods or unions, of which 31,400,082 square yards, valued at \$11,710,610, were made in 1914, increased by 14.1 per cent in quantity, but decreased by 1.8 per cent in value.

Flannels for underwear showed rather pronounced decreases, declining in quantity from 10,919,925 square yards in 1909 to 7,171,839 square yards in 1914, or by 34.3 per cent; the corresponding decrease in value amounted to 23.2 per cent. The production of domett flannels and shirtings, on the other hand, increased to a very marked degree, more than trebling in both quantity and value.

Appreciable increases may also be noted in the production of linings, Italian cloths, and lastings, of satinets and linseys, of blankets, of horse blankets, and of upholstery goods. Linings, Italian cloths, and lastings increased in quantity from 28,928,148 square yards in 1909 to 36,196,243 square yards in 1914, or by 25.1 per cent, and in value by 8.8 per cent. Blankets showed an increase during the five-year period amounting to 11,798,471 square yards, or 71.1 per cent in quantity, and to \$2,700,328, or 41.1 per cent in value.

The production of carriage cloths, carriage robes, and woven shawls decreased materially between 1909 and 1914. Of the yarn made for sale, mohair and other similar yarn formed the only kind which showed an increase in quantity.

The production of worsted (combed wool) goods is confined almost entirely, and the production of woolen (carded wool) goods very largely, to the New England and North Atlantic States. Of the total value of products in these industries, \$379,484,379, Massachusetts reported products valued at \$127,351,434, Pennsylvania \$63,113,060, Rhode Island \$60,888,755, New Jersey \$35,738,853, Maine \$17,531,470, Connecticut \$16,577,549, New York \$15,857,635, New Hampshire \$15,039,284, and Vermont \$3,629,869. The New England States produced \$241,018,361, or 63.5 per cent of the total, and the North Atlantic States \$114,709,548, or 30.2 per cent.

SUMMARY.

The details for 1914 and 1909 are shown in the following summary statements:

WOOLEN AND WORSTED GOODS (EXCLUSIVE OF CARPETS, FELT GOODS AND WOOL-FELT HATS) — COMPARATIVE STATISTICS FOR THE UNITED STATES: 1914 AND 1909.

	CENSUS.			Per Cent of In- crease, ¹ 1909- 1914.	
	1914.				
	Woolen Goods.	Worsted Goods.	Total.		
Number of establishments	501	298	799	911	
Persons engaged in manufactures	51,631	113,059	164,690	169,193	
Proprietors and firm members	316	141	457	677	
Salaried employees	2,150	3,391	5,541	5,324	
Wage earners (average number)	49,165	109,527	158,692	163,192	
Primary horsepower	134,597	246,623	381,220	348,283	
Capital	\$107,871,742	\$251,780,836	\$389,652,578	\$415,377,993	
Services	27,726,892	58,772,968	86,499,860	79,084,271	
Salaries	3,522,413	7,024,003	10,546,416	9,357,225	
Wages	24,204,479	51,748,965	75,953,444	69,727,046	
Materials	63,696,042	182,800,624	246,496,666	273,438,570	
Value of products	105,815,905	275,668,474	379,484,379	419,743,521	
Value added by manufacture (value of products less cost of materials)	40,119,863	92,867,850	132,987,713	146,304,951	

¹ A minus sign (—) denotes a decrease.

MATERIALS PURCHASED.

	1914.	1909.	Per Cent of Increase, ¹ 1909-1914.	1914.	1909.	Per Cent of Increase, ¹ 1909-1914.
	Quantity (pounds).			Cost.		
	1914.	1909.		1914.	1909.	
Foreign wool (in condition purchased)	168,093,685	164,153,087	2.4	\$43,515,748	\$51,648,679	-15.7
Domestic wool (in condition purchased)	266,634,390	310,602,279	-14.2	64,571,871	85,018,238	-24.0
Equivalent of above in scoured condition	257,448,746	290,706,970	-11.4	1,514,360	1,416,053	6.9
Camel, alpaca, and vicuna hair,	5,445,957	4,637,213	17.4	1,975,567	618,668	219.3
Mohair, domestic	6,478,151	2,429,120	166.7	965,427	364,402	164.9
Mohair, foreign	2,435,349	739,089	229.5	1,062,810	932,911	13.0
All other animal hair	14,761,502	17,356,100	-14.9	4,754,308	2,856,966	66.4
Rags, clippings, etc.	59,425,149	40,402,460	47.1	2,282,492	2,049,521	11.4
Cotton, domestic	22,419,790	17,116,674	31.0	5,967,232	5,958,860	105.8
Cotton, foreign	26,276,924	21,454,187	22.5	3,551,217	3,058,214	16.1
Reclaimed wool fiber	38,881,960	26,079,691	49.1	8,220,383	7,423,641	10.7
Noils and wool waste						
Mohair, camel, alpaca, and vicuna noils	3,529,914	393,620	796.8	686,102	99,642	588.6
Tops	29,106,307	20,828,245	39.7	16,679,519	14,614,527	14.1
Yarns:						
Woolen	2,168,371	931,222	132.8	1,174,815	558,270	110.4
Worsted	53,629,197	59,148,771	-9.3	44,660,712	56,033,701	-20.3
Merino (cotton mixed)	530,863	1,971,709	-73.1	168,519	318,456	-47.1
Cotton	32,105,412	39,169,388	-18.0	9,076,933	10,492,185	-13.5
Silk	272,619	128,122	112.8	1,147,351	675,124	69.9
Spun silk	243,331	154,414	57.6	863,534	467,539	84.7
Jute, ramie, and other vegetable fiber	1,966,905	1,034,050	90.2	87,862	26,765	228.3
Chemicals and dyestuffs				8,536,232	8,820,928	-3.2

¹ A minus sign (—) denotes a decrease.

PRODUCTS MANUFACTURED FOR CONSUMPTION IN SAME ESTABLISHMENT.

	1914.	1909.
Woolen yarns, pounds	128,710,245	91,504,762
Worsted yarns, pounds	75,901,071	79,555,020
Merino yarn (cotton mixed):		
Woolen, pounds	37,617,978	
Worsted, pounds	1,743,222	{ 31,287,900
Cotton yarn, pounds	7,575,057	5,017,649
Recovered wool fiber, pounds	40,080,255	32,066,633

PRODUCTS FOR SALE.

	1914.	1909.	Per Cent of Increase, 1909- 1914.	1914.	1909.	Per Cent of Increase, 1909- 1914.
	Quantity.			Value.		
All-wool woolen fabrics, square yards	90,950,381	84,641,705	7.4	\$55,660,503	\$56,907,413	-2.2
All-wool worsted fabrics, square yards	222,327,115	226,110,822	-1.7	141,778,035	156,755,217	-9.6
Cotton-warp woolen fabrics, square yards	47,398,289	60,236,428	-21.3	13,598,007	15,621,015	-13.0
Cotton-warp worsted fabrics, square yards	54,067,018	94,333,233	-42.7	14,897,757	29,808,046	-50.0
Cotton-mixed fabrics, square yards	31,400,082	27,518,756	14.1	11,710,610	11,920,956	-1.8
Flannels for underwear, all wool, square yards	2,176,264	3,856,353	-43.6	880,494	1,257,271	-30.0
Flannels for underwear, cotton mixed, square yards	4,995,575	7,063,572	-29.3	1,059,661	1,308,369	-16.7
Domest flannels and shirtings, square yards	³ 16,092,266	4,571,765	252.0	³ 2,814,054	911,967	208.6
Linings, Italian cloths, and lasts, square yards	36,196,243	28,928,148	25.1	9,804,661	9,008,799	8.8
Satinets and linseys, square yards	³ 8,415,079	5,102,460	64.9	³ 1,535,291	912,182	68.3
Blankets:						
All wool, square yards	6,489,689	5,137,903	26.3	4,186,754	3,228,797	29.7
Cotton mixed, square yards	3,937,463	1,717,758	129.2	2,067,934	650,714	217.8
Cotton warp, square yards	³ 17,973,821	9,746,841	84.4	³ 3,010,070	2,684,919	12.1
Horse blankets:						
All wool, square yards	102,205	247,395	-58.7	82,398	185,430	-55.6
Cotton mixed, square yards	³ 2,231,162	694,176	221.4	³ 395,558	186,238	112.6
Cotton warp, square yards	5,831,305	4,210,098	38.5	1,539,526	1,675,942	-8.2
Carriage cloths, square yards,	³ 514,226	1,782,855	-71.2	³ 443,223	947,862	-53.2
Carriage robes:						
All wool, square yards	³ 132,399	85,179	55.4	³ 158,900	17,642	800.7
Cotton mixed, square yards	3,354,049	459,080	-22.9	³ 137,968	261,696	-47.3
Cotton warp, square yards	1,172,417	2,889,444	-59.4	936,687	1,396,595	-32.9
Woven shawls, square yards	³ 121,213	704,153	-82.8	³ 66,365	404,583	-83.6
Upholstery goods, square yards	1,351,262	1,176,542	14.8	1,539,381	1,528,648	0.7
All other woven goods made in worsted mills, square yards	3,569,709	701,403	· · ·	1,219,382	391,519	· · ·
Woolen yarn, pounds	26,125,575	28,520,493	-8.4	8,783,020	7,505,412	17.0
Worsted yarn, pounds	86,412,097	88,323,953	-2.2	69,801,271	80,395,543	13.2
Merino yarn (cotton mixed), pounds	10,522,363	14,011,362	-24.9	4,862,564	5,666,228	-14.2
Mohair and similar yarn, pounds	8,844,234	869,967	· · ·	2,279,162	652,643	· · ·
Cotton yarn, pounds	517,945	2,325,586	-77.7	109,308	321,927	-66.0
Wool card rolls, pounds	362,749	142,067	155.3	219,803	86,764	153.3
Noils and wool waste, pounds	51,165,844	51,899,737	-1.4	10,155,552	12,473,350	-18.6
Tops and slubbing, pounds	8,985,170	11,321,279	-20.6	4,924,929	8,027,231	-38.6
All other products	· · · · ·	· · · · ·	· · · · ·	5,356,615	3,615,348	48.2
Contract work	· · · · ·	· · · · ·	· · · · ·	3,436,636	3,026,255	13.6
Total value ²	· · · · ·	· · · · ·	· · · · ·	\$379,484,379	\$419,743,521	-9.6

¹ A minus sign (-) indicates a decrease.² In addition, woollen and worsted goods to the value of \$2,945,973 in 1914 and \$3,862,340 in 1909 were made by establishments engaged primarily in the manufacture of other products.

* Figures for 1914 apply to goods made in woollen mills only; the output of these goods by worsted mills is included in "All other woven goods made in worsted mills."

MACHINERY.

	1914.	1909.
Woolen cards, number of sets	4,220	4,500
Wool-combing machines	2,294	1,988
Pickers	1,201	1,310
Garnet machines	165	202
Mule spinning spindles:		
Woolen	1,651,173	1,754,736
Worsted	669,926	423,393
Shoddy	27,457	7,308
Cotton	166	3,456
Frame spinning spindles:		
Woolen	9,168	23,161
Worsted	1,463,238	1,232,007
Cotton	59,456	109,133
Doubling and twisting spindles:		
Woolen	87,220	106,974
Worsted	752,429	616,800
Shoddy		30
Cotton	1,800	10,642
Broad looms:		
Woolen	20,697	24,399
Worsted	35,009	28,796
Shoddy	638	167
Cotton	48	133
Narrow looms:		
Woolen	6,585	7,816
Worsted	11,572	10,680
Shoddy	464	286
Cotton	794	209
Hand looms	13	41

FELT GOODS, WOOL-FELT HATS, AND FUR-FELT HATS.

A summary of the general results of the 1914 census of manufactures for the felt goods, wool-felt hat, and fur-felt hat industries follows: It consists of a detailed statement of the quantities and cost of raw materials and the quantities and values of the various kinds of felted products manufactured during 1909 and 1914 in the United States as a whole. The figures are preliminary and subject to such change and correction as may become necessary upon further examination of the original returns.

FELT GOODS, OTHER THAN HATS.

Establishments classified in the "felt-goods" industry are engaged primarily in the manufacture of all kinds of felted products, except wool-felt and fur-felt hats. The principal materials used are wool, animal hair, and cotton. Most of the products are made without weaving, the materials being matted together by rolling, beating, and pressure, with the aid of moisture and heat. In this process the natural tendency of the fibers to inter-

lace is utilized. In the case of woven felt goods, such as cloths, paper-makers' felts, etc., the fabric is first woven and then felted to the desired condition.

Materials. — Of raw wool, the consumption in 1914 amounted to 14,969,852 pounds, at a cost of \$4,030,114, representing an increase of 20.6 per cent in quantity and of 2.6 per cent in cost, as compared with the consumption in 1909. Of purchased noils and wool waste, there were used in the later year 4,064,699 pounds, at a cost of \$1,019,687, representing a decrease of 16.6 per cent in quantity and of 16.4 per cent in cost. The cost of the remaining materials shown in the table comprising animal hair (principally cattle hair, but including some mohair, camel hair, etc.); cotton; rags, clippings, etc.; reclaimed wool fiber; tops; and chemicals and dyestuffs — aggregated \$1,794,736 in 1914 and represented an increase of 74.1 per cent, as compared with the corresponding figure for 1909.

The greatest proportional increase in quantity during the five-year period, 126.4 per cent, is shown for cotton, of which 3,117,272 pounds were consumed in the later year. The corresponding advance in cost was 91 per cent. The greatest proportional increase in cost, however, 209.3 per cent, appears for animal hair, the cost of which in 1914 was \$739,955. The corresponding advance in quantity was 41.7 per cent.

Most of the yarn used in making woven felts is produced in the establishments in which it is consumed. Of woolen, worsted, and merino yarn, 7,681,248 pounds were used in 1914, of which only 116,321 pounds were purchased as such, the remainder, 7,564,927 pounds, being made and consumed in the same establishments. Of cotton yarn only 280,030 pounds were used in 1914, of which 263,780 pounds were purchased as such, the remainder, 16,250 pounds, being made in the establishments which consumed it.

Products. — The total value of products in 1914 was \$13,692,765, an increase of 15.5 per cent over that in 1909, \$11,852,626. A large variety of products is reported by this industry, the most important being endless belts, of which 3,941,795 pounds, valued at \$4,164,186, were reported for 1914; the percentages of increase in quantity and value as compared with the 1909 output being 21.5 and 21.8, respectively. The endless belts are mostly woven felts, and the largest portion of this group consists of paper-

makers' felts. Of boot and shoe linings, 3,028,286 pounds, valued at \$1,512,783, were made in 1914, the percentages of increase in quantity and value during the five-year period being 82.3 and 194, respectively.

Of trimming and lining felts the production in 1914 amounted to 7,431,152 square yards, valued at \$1,048,583, representing an increase of 28.1 per cent in quantity, together with a decrease of 15.4 per cent in value. The output of saddle felts in the later year was 2,291,662 pounds, valued at \$973,353, the percentages of increase in quantity and value during the five-year period being 38.8 and 69, respectively. Hair felting, much of which is used as insulation for refrigerator cars and as pipe coverings, showed increases of 15.6 per cent in quantity and 19.6 per cent in value between 1909 and 1914, the production in the later year being 1,340,436 pounds, valued at \$635,041.

The aggregate value of the remaining products reported for 1914 — including the value of felt cloth, table and piano covers, "all other felts" (polishing felts and buffing wheels, gun-wad felts, piano felts, etc.), waste, and all other products — was \$5,-358,819.

Of the total value of products in 1914, \$13,692,765, New York reported \$4,826,574; Massachusetts, \$2,997,080; Connecticut, \$551,426; New Jersey, \$527,558; and Pennsylvania, \$518,732. Of the 53 establishments reported in this industry in 1914, 15 were located in Massachusetts, 12 in New York, 6 in Pennsylvania, 5 in New Jersey, 4 in Connecticut, 2 each in Illinois, Maine, Ohio, and Wisconsin, and 1 each in California, Texas, and Virginia.

SUMMARY FOR THE INDUSTRY.

The comparative statistics for 1914 and 1909 are summarized in the following preliminary statements:

FELT GOODS—COMPARATIVE SUMMARY: 1914 AND 1909.

	CENSUS.		Per Cent of Increase, 1909-1914.
	1914.	1909.	
Number of establishments	53	43	23.3
Persons engaged in manufacture	4,553	3,856	18.1
Proprietors and firm members	11	19	• • •
Salaried employees	507	293	73.0
Wage earners (average number)	4,035	3,544	13.9
Primary horsepower	14,056	11,405	23.2
Capital	\$20,284,043	\$12,724,833	59.4
Services	3,173,384	2,326,151	36.4
Salaries	1,084,141	614,271	76.5
Wages	2,089,243	1,711,880	22.0
Materials	8,308,270	6,967,206	19.2
Value of products	13,692,765	11,852,626	15.5
Value added by manufacture (value of products less cost of materials)	5,384,495	4,885,420	10.2

	NUMBER OR QUANTITY.			COST OR VALUE.		
	1914.	1909.	Per Cent of Increase, 1909-1914.	1914.	1909.	Per Cent of Increase, 1909-1914.

MATERIALS.

Wool (in condition purchased), pounds	14,969,852	12,409,826	20.6	\$4,030,114	\$3,927,393	2.6
Equivalent of above in scoured condition, pounds	10,476,716	9,308,172	12.5	• • • • •	• • • • •	• • • • •
Animal hair (including mohair, camel hair, etc.), pounds	11,540,575	8,144,011	41.7	739,955	239,244	209.3
Cotton, pounds	3,117,272	1,375,670	126.6	297,632	185,815	91.0
Rags, clippings, etc., pounds	1,170,409	1,115,092	4.9	70,813	57,358	23.5
Recovered wool fiber, pounds	3,502,795	2,536,243	38.1	409,518	261,878	56.4
Wool and other noils and wool waste, pounds	4,064,699	4,874,712	-16.6	1,019,687	1,220,110	-16.4
Tops, pounds	17,381	157,272	-88.9	6,897	96,677	-92.9
Chemicals and dyestuffs, pounds	• • • • •	• • • • •	• • • • •	269,921	219,891	22.8

FELT GOODS—COMPARATIVE SUMMARY.—*Continued.*

	NUMBER OR QUANTITY.			COST OR VALUE.		
	1914.	1909.	Per Cent of Increase, ¹ 1909-1914.	1914.	1909.	Per Cent of Increase, ¹ 1909-1914.

PRODUCTS.

Felt cloths, square yards	(2)	3,764,468	.....	\$797,048	\$1,381,854	—42.3
Trimming and lining felts, including felt skirts and skirtings, square yards	7,431,152	5,801,635	28.1	1,048,583	1,239,221	—15.4
Table and piano covers, square yards	438,178	151,775	188.7	272,754	90,465	201.5
Saddle felts, pounds	2,291,662	1,650,991	38.8	973,353	575,849	69.0
Endless belts, pounds	3,941,795	3,243,034	21.5	4,164,186	3,417,822	21.8
Boot and shoe linings, pounds	3,028,286	1,661,090	82.3	1,512,783	514,456	194.1
Hair felting, square yards	1,350,436	1,159,999	16.4	635,041	531,045	19.6
All other felts, pounds	7,477,263	4,792,738	56.0	3,691,081	3,129,548	17.9
Waste, pounds	332,384	279,119	19.1	44,751	16,281	174.9
All other products, including contract work . . . . .	.....	.....	.....	553,185	956,085	—42.1
Total value . . . . .	.....	.....	.....	\$13,692,765	\$11,552,626	15.5

MACHINERY.

	1914.	1909.
Woolen cards, sets	573	472
Spindles:		
Spinning, mule, number	34,831	29,259
Spinning, frame, number	1,631	204
Doubling and twisting, number	1,030	890
Broad looms, number	446	393
Narrow looms, number	26	15
Pickers, number	88	82
Garnet machines, number	25	21

¹ A minus sign (—) denotes a decrease.² Not reported.

WOOL AND FUR HATS.

Although many of the details of the manufacture of wool-felt and fur-felt hats are given separately in some of the statements which follow, the details of the personnel, capital employed, cost of services and wages, and some other important facts relating to the two industries have not been reported separately as heretofore, but have been combined in the immediately succeeding table. The failure to make the separation in all respects is

unfortunate, for it makes a comparison of the details of 1914 with those of earlier reports impossible in some important particulars.

WOOL AND FUR HATS, COMPARATIVE SUMMARY: 1914 AND 1909.

	CENSUS.			1909.	Per Cent of In- crease, ¹ 1909- 1914.		
	1914.						
	Wool-felt Hats.	Fur-felt Hats.	Total.				
Number of establishments	30	224	254	304	-16.4		
Persons engaged in manufactures	1,372	22,932	24,304	29,128	-16.6		
Proprietors and firm members	38	163	201	300	-33.0		
Salaried employees	85	1,451	1,536	1,868	-17.8		
Wage earners (average number)	1,249	21,318	22,567	27,050	-18.6		
Primary horsepower	3,091	20,851	23,942	21,766	10.0		
Capital	\$2,608,839	\$39,401,429	\$42,010,268	\$38,209,342	9.9		
Services	747,131	14,000,263	14,747,394	17,433,235	-15.4		
Salaries	147,553	1,929,451	2,077,004	2,222,350	-6.5		
Wages	599,578	12,070,812	12,670,390	15,210,885	-16.7		
Materials	978,339	16,947,058	17,925,397	24,581,494	-27.1		
Value of products	1,944,484	37,349,744	39,294,228	52,247,041	-24.8		
Value added by manufacture (value of products less cost of materials) . . .	966,145	20,402,686	21,368,831	27,665,547	-22.8		

¹ A minus sign (-) denotes a decrease.

WOOL-FELT HATS.

A greater decline took place in the production of wool-felt hats than in those made from fur, the output of finished hats of this class decreasing from 590,957 dozen in 1909 to 381,044 dozen in 1914. The total value of the products of this industry decreased from \$4,382,411 in 1909 to \$1,944,484 in 1914, or by 55.6 per cent.

Of the total value of products in 1914, \$1,944,484, Pennsylvania reported \$776,878 and New York \$413,887. Of the thirty establishments reported in this industry for 1914, eleven were located in Pennsylvania, seven in New York, five in Illinois, two in Massachusetts, and one each in Georgia, Minnesota, New Jersey, Oklahoma, and Rhode Island.

Comparative statistics for 1909 and 1914 are summarized in the following table:

WOOL-FELT HATS. COMPARATIVE SUMMARY: 1914 AND 1909.

	NUMBER OR QUANTITY.			COST OR VALUE.		
	1914.	1909.	Per Cent of Decrease, 1909-1914.	1914.	1909.	Per Cent of Decrease, 1909-1914.
				1914.	1909.	1914.
Number of establishments . . .	30	31	(¹)			
MATERIALS.						
Wool (in condition purchased), pounds	606,957	1,203,498	49.6	\$298,345	\$404,127	26.2
Equivalent of above in scoured condition, pounds,	561,639	989,110	43.2			
Noils and wool waste, pounds,	454,099	1,281,764	64.6	213,851	661,172	67.7
Hatters' fur, pounds	35,349	140,740	74.9	39,976	279,660	85.7
Wool-felt hat bodies in the rough, ² dozen	13,449	21,864	38.5	26,646	83,020	67.9
Chemicals and dyestuffs				34,501	104,503	67.0
PRODUCTS.						
Wool-felt hats, dozen	381,044	590,957	35.5	\$1,777,225	\$3,646,787	51.3
Wool-felt hat bodies in the rough, ² dozen	5,715	53,896	89.4	13,029	309,492	95.8
All other products, including contract work				154,230	426,132	63.8
Total value ³				\$1,944,484	\$4,382,411	55.6

¹ Per cent not computed where base is less than 100.

² The difference between the number of wool felt hat bodies in the rough used as materials by some establishments and the number manufactured as products by others is due in part to the fact that not all these bodies were used in the same year in which made, and in part to the further fact that some of them were purchased from establishments classified in other industries.

³ In addition, wool-felt hats, to the value of \$305,181 in 1914 and to the value of \$904,643 in 1909, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

FUR-FELT HATS.

Fur-felt hats, both soft and stiff, are made chiefly from the fur of the rabbit, the hare, and the coypu (a South American aquatic rodent). In some cases the fur is removed from the skin in the larger hat shops, but much of it is bought from establishments engaged solely in cutting hatters' fur. A considerable quantity of cut fur is imported. While many concerns in this industry make the hat from start to finish, some make nothing but the hat bodies, some take the bodies and carry the process of manufacture forward to the finished hat, others do work under contract on materials furnished by other manufacturers, and still others do finishing only. There is thus some duplication in the value of products.

Changes in styles caused a marked decrease in the production of fur-felt hats from 1909 to 1914, the output of finished hats declining from 2,989,252 dozen to 2,118,634 dozen, or by 29 per cent. The total value of the products of this industry decreased from \$47,864,630 to \$37,349,744, or by 22 per cent, during the five-year period. The following table shows the comparative statistics for 1909 and 1914 in detail:

FUR-FELT HATS — COMPARATIVE SUMMARY: 1914 AND 1909.

	NUMBER OR QUANTITY.			COST OR VALUE.		
	1914.	1909.	Per Cent of Decrease, 1909-1914.	1914.	1909.	Per Cent of Decrease, 1909-1914.
Number of establishments . . .	223	273	18.0			
MATERIALS.						
Blatters' fur, pounds	5,766,904	8,645,576	33.3	\$7,108,248	\$9,278,922	23.4
Fur-felt hat bodies in the rough, dozen ¹	395,848	406,447	2.6	2,453,503	2,575,248	4.7
Chemicals and dyestuffs . . . . .	.....	.....	.....	432,161	843,587	48.8
PRODUCTS.						
Fur-felt hats, dozen	2,118,634	2,989,252	29.1	\$33,603,531	\$43,442,466	22.6
Fur-felt hat bodies in the rough, dozen ¹	329,363	366,370	19.1	2,372,937	2,703,738	12.2
All other products, including contract work . . . . .	.....	.....	.....	1,373,276	1,718,426	20.1
Total value ² . . . . .	.....	.....	.....	\$37,349,744	\$47,864,630	22.0

¹ The difference between the number of fur-felt hat bodies in the rough used as materials by some establishments and the number manufactured as products by others is due in part to the fact that not all these bodies were used in the same year in which made, and in part to the further fact that some of them were purchased from establishments classified in other industries.

² In addition, fur-felt hats, to the value of \$476,449 in 1914 and to the value of \$806,601 in 1909, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

The manufacture of fur-felt hats is highly centralized, four adjacent States producing 94 per cent of the total product in 1914. Pennsylvania led, with products valued at \$11,040,820, followed by Connecticut with \$9,475,778, New Jersey with \$7,969,344, and New York with \$6,637,380. Five cities in these States reported 73.1 per cent of the total value of products for the United States: Philadelphia, \$9,914,443; Danbury, Conn., \$7,065,765; Newark, N.J., \$3,900,954; New York City, \$3,601,944; and Orange, N.J., \$2,822,860.

The total number of establishments in the industry in 1914 was 223, of which 57 were in Connecticut, 41 in New Jersey, 39 in New York, 27 in Pennsylvania, 10 in Massachusetts, 9 in Illinois, 7 in Ohio, 6 each in California and Missouri, 3 in Texas, 2 each in Kentucky and Oregon, and 1 each in Arkansas, Delaware, Iowa, Maine, Maryland, Michigan, Montana, Nebraska, New Hampshire, Oklahoma, Rhode Island, Washington, West Virginia, and Wisconsin.

ADDITIONAL SUMMARY STATEMENTS RESPECTING CARPETS AND RUGS AND WOOL SHODDY.

Most of the 1914 United States census statistics relating to the manufacture of carpets and rugs and of wool shoddy were published in the July Bulletin. The following tables of general statistics, showing the capital employed, the number of operatives, the wages paid, and other important items of these branches of industry, have since been issued by the Census Office. These tables, combined with those previously given, complete the reports of these branches of the wool manufacture. These two numbers of the Bulletin, therefore, contain all that the Census Office has yet issued respecting the wool manufacture in the United States in 1914.

CARPETS AND RUGS, OTHER THAN RAG—COMPARATIVE SUMMARY: 1914 AND 1909.

	CENSUS.		Per Cent of Increase, ¹ 1909-1914.
	1914.	1909.	
Number of establishments	97	139	-30.2
Persons engaged in manufacture	33,101	34,706	-4.6
Proprietors and firm members	72	134	-46.3
Salaried employees	1,720	1,265	36.0
Wage earners (average number)	31,309	33,307	-6.0
Primary horsepower	43,963	38,553	14.0
Capital	\$5,153,828	\$75,627,010	12.6
Services	17,589,293	17,745,092	-0.9
Salaries	2,873,678	2,209,042	30.1
Wages	14,715,615	15,536,050	-5.3
Materials	42,280,223	39,563,004	6.9
Value of products	69,128,185	71,188,152	-2.9
Value added by manufacture (value of products less cost of materials)	26,847,962	31,625,148	-15.1

¹ A minus sign (—) denotes a decrease.

WOOL SHODDY—COMPARATIVE SUMMARY: 1914 AND 1909.

	CENSUS.		Per Cent of Increase, ¹ 1909-1914.
	1914.	1909.	
Number of establishments	64	80	-20.0
Persons engaged in manufacture	2,391	2,177	9.8
Proprietors and firm members	58	76	-23.7
Salaried employees	188	178	5.6
Wage earners (average number)	2,145	1,923	11.5
Primary horsepower	12,440	12,535	-0.8
Capital	\$6,420,985	\$6,272,154	2.4
Services	1,343,171	1,129,614	18.9
Salaries	287,057	265,548	8.1
Wages	1,056,114	864,066	22.2
Materials	5,299,903	4,539,979	16.7
Value of products	7,706,843	6,854,993	12.4
Value added by manufacture (value of products less cost of materials)	2,406,940	2,315,014	4.0

¹ A minus sign (—) denotes a decrease.

Obituary.

MARTIN A. MARKS.

MR. MARTIN A. MARKS, secretary and treasurer of the Cleveland Worsted Mills Company, died on August 31. He had been in ill health for some time, and went to the New Hampshire hills in hope of restoration. His death occurred in the mountain town of Jackson. A business man of ability, a public-spirited citizen and a gentleman of warm sympathies and wide interests, Mr. Marks will be keenly missed in Cleveland and wherever he has been known throughout his active lifetime. Mr. Marks was a native of Madison, Indiana, born February 6, 1853, the son of a merchant. It was in his father's store that he learned his first business lessons, and as a young man he became a member of the firm of A. Marks & Son. In 1887 he removed from Madison to Cleveland, and entered the firm of Klein, Marks & Company. Three years later he connected himself with the Northwestern Mutual Life Insurance Company and subsequently became the manager of the Northwestern Ohio District for the Equitable Life Assurance Society of New York. This latter post Mr. Marks occupied until he was compelled to relinquish the work on account of impaired health, traveling for a while in Europe.

Returning to Cleveland, Mr. Marks in 1902 became associated with the Cleveland Worsted Mills Company, of which, in 1906, he became the secretary and treasurer. He had witnessed the remarkable growth of the company to the rank of one of the largest wool manufacturing undertakings in America.

In Cleveland, Mr. Marks was identified with many interests. He had been president of the Public Library Board, and was a director of the First National Bank and a member of its finance committee, a director and a member of the executive board of the Guardian Savings Trust Company, a member of the executive board of the Cleveland Humane Society, and an organizer of the Educational League and the Visiting Nurses' Association. Mr. Marks was also one of the founders of the National Jewish Tuberculosis Hospital at Denver, vice-president of the National Jewish Conference of Charities, honorary president of the

Temple, past district president of the B'nai B'rith, a member of the Excelsior, Oakwood, Athletic, and Automobile clubs of Cleveland, and a member of the Masonic Order, the Chamber of Commerce, and other organizations.

Mr. Marks in 1885 was married to Miss Belle Hays of Cleveland. He leaves a wife and two daughters.

DAY CHADWICK.

MR. DAY CHADWICK, agent of the Holyoke Plush Company, Holyoke, Mass., died on September 23. Mr. Chadwick, who was born in Dewsbury, England, seventy-six years ago, had long been an active factor in the plush manufacture in the United States. He and John Chadwick were wool merchants in England, but they determined to come to this country and to engage in manufacturing here under the shield of the protective tariff. Bringing their own machinery, they established themselves here, and a group of seventy skilled workers followed them. A reduction in the tariff nearly proved fatal to their enterprise, but they regained their ground and prospered under the protective legislation succeeding. Associated with Mr. Day Chadwick in the Holyoke Plush Company for many years was Mr. John Chadwick, as manufacturing superintendent.

Editorial and Industrial Miscellany.

A VERY SOLID OPPOSITION.

HOW THE AMERICAN WOOL MANUFACTURE HAS FELT ABOUT THE NATIONAL ELECTIONS, AND WHY.

IN the national political campaign of 1916, more markedly perhaps than ever before, the sympathies of the wool manufacturers of the United States and of the many thousands affiliated with them in the industry have been with the political party opposed to the present National Administration. Free wool and a nominal rate on cloths and dress goods of 35 per cent ad valorem proved in the interval between January 1 and August 1, 1914, to be inadequate for the proper safeguarding of American woolen mills, their 200,000 employees, and the thousands of other persons interested in or dependent on them.

Nobody with any exact knowledge of the industry has forgotten that in those seven months of peaceful and normal operation of the Simmons-Underwood tariff, the imports of foreign cloths and dress goods into the United States suddenly increased by 300 or 400 per cent, and that from this cause, and even more from the general prostration of American business, substantially one-third of American wool manufacturing machinery was idle and one-third of the army of employees was out of work. There was a terrible situation of unemployment and suffering in the United States contrasted with activity and exultation in Europe. Foreign mills were running full when the great war opened. Their proprietors were establishing agencies in this country, and preparing to advance their partial conquest of the American market, into which most of them had not even looked for many years. The next seven months, if the war had not come, would undoubtedly have been characterized by a far greater expansion of the volume of imports and a corresponding decline in the already shrunken volume of American manufacturing.

This graphic object lesson of January-August, 1914, had left the American wool manufacture, so far as can be known, without one single conspicuous upholder of President Wilson's policy and of the Simmons-Underwood tariff law. Men who had been

Democrats for years ceased to be Democrats, or, at any rate, ceased to be willing to be reckoned among the Wilson school of Democracy. And in this manufacture, as in so many other lines of American industry, party differences gave way to a solidified, unanimous opposition.

It was recognized on all hands, by all men familiar with trade conditions, that if the war should end before the Simmons-Underwood law could be revised, the American wool manufacturing business would be facing a very grave catastrophe, because the Simmons-Underwood rates had been proved and tested and had been found to be many points too low to equalize general conditions. The increased imports of cloths and dress goods had represented not the higher ranges of value, but almost all ranges, the average foreign price of total importations being less than \$1 a pound. Such excessively low rates meant the crippling and sacrifice of the industry so long as they were continued. There were never two opinions about that fact. A few wool manufacturers professed to be satisfied with the Gorman-Wilson law of 1894, but there were no supporters among manufacturers of the Simmons-Underwood law of 1913, no friends and no apologists.

It is well that this circumstance should be recorded at the present time. Manufacturers in general have not approached the tariff question as mere partisans. They have faced the situation open-eyed and they have condemned the Simmons-Underwood law, not because of any antipathy to Senator Simmons or to Chairman, now Senator, Underwood, whom they have regarded as undoubtedly sincere and straightforward men, or out of any personal antipathy to President Wilson. But in those seven months of peace before the opening of the war, the manufacturers saw enough to convince them as Americans that the Simmons-Underwood woolen rates slaughtered American industry for the benefit of Europe. It was a recorded fact that there were no substantial reductions in price to the "ultimate consumers." If the radically reduced duties saved anything it went into the pockets of a few middlemen and of already wealthy European manufacturers. None of the American people profited by the change. The sole beneficiaries were men on the other side of the Atlantic Ocean, or men more or less temporarily residing in this country who were their active agents or representatives.

The "new freedom," so far as the American wool manufacture

is concerned, had only hurt Americans and only made aliens prosperous. This was the conviction with which all men, employers or employees, in this industry as in so many other industries who were actually acquainted with the circumstances, have approached the national election prepared to cast their vote. They have all regarded the present Administration and Congress as an Administration and Congress that had betrayed them.

WHAT OF THE EMBARGO ?

A BELIEF THAT AMERICAN MANUFACTURERS AND MERCHANTS ARE ENTITLED TO HEAR FROM THE BRITISH GOVERNMENT.

OVER nothing at this writing are American wool manufacturers and merchants more exercised than over the probable attitude of the British Imperial authorities toward the embargo on Colonial wools. Though the auctions of Australia have begun, American purchases for shipment are not permitted; the embargo still holds. There is no indication when or how far this may be lifted in favor of American and other neutral applications.

There is no disposition among manufacturers and merchants of this country to press the British government too sharply for a definition of its attitude. It is a life-and-death struggle, in which the combatants on either side are deserving of all possible patience and consideration from Americans. Yet apparently the time should be near when the British government, without loss to its material interests, should be in a position to indicate what it is going to do, whether American purchases for export will be allowed and when and what quantities of wool are to be released for American consumption.

The need for more wool is and will be keen in the United States. It is certain that there will be an increase next spring in the American clip. This is still a long way off, and the increase, anyway, can scarcely be more than a few million pounds. For several years, less than 300,000,000 pounds of wool have been produced in the United States. The output for 1915, according to our Annual Wool Review, was 288,000,000 pounds. This contrasts rather significantly with the 348,000,000 pounds of 1893, and it represents much less than one-half of the annual American wool consumption. A very great quantity of wool will

be required from abroad this coming winter and spring, and South America, of course, will be totally unable to supply it. The continuance of the British embargo and the uncertainty as to when or whether it will be removed, threatens to cause American manufacturers and merchants grave embarrassment. The National Association has sought the earliest and fullest possible information as to the purpose of the British government, and some information may now be forthcoming at any time. As soon as it is available it will be communicated to those most interested in it.

If there was any buying of Australian wool last year in advance of actual requirements, the fact was chiefly due to the embargo itself, a new and unusual experience, which filled the minds of men with apprehension as to whether a renewed colonial supply would be forthcoming. A huge quantity of wool was bought, but an exceptionally large amount has been demanded and utilized in manufacturing. It is not probable that there is now or will be on January 1 a very considerable amount of wool on store in the United States.

Any fear of the British authorities that stocks of raw wool have accumulated in this country, that they were bought on German account with a purpose to make them immediately available to German manufacturers after the war is over, or that there are devious methods by which this wool, now made contraband, may be smuggled into Germany, should be dismissed as a figment of the imagination.

More woolen machinery has been running and much more wool has been consumed. This is the real cause of the large importations. There is no reason why the British authorities should look with any uneasiness upon it. Our actual requirements for raw wool in the present year will undoubtedly be in the vicinity of 600,000,000 pounds, or more than enough to account for the entire American product of the year twice over. Large imports of raw wool are now inevitable, and will continue to be characteristic of the American wool trade long after the present war has ended.

It is to be hoped that on the proper representations, the British government will indicate approximately how much wool will be made available for sale and shipment to America and how the purchases may be accomplished. Nothing will be left undone by the officers of the National Association to secure the earliest pos-

sible intimation from London as to what is likely to be the course of action of the Imperial government.

There will be assistance to this end from British colonists themselves. The wool growers of Australia within a few days have demanded that American buyers be allowed to make all reasonable purchases. We need Australian wool, but the Australian growers need American money also, and there is an opportunity in an early and careful lifting of the embargo to serve the common interest.

WHAT THE SCHOOLS ARE DOING.

A GREATLY INCREASED INTEREST IN THE WORK OF TECHNICAL EDUCATION HERE AND ABROAD.

In this number of the Bulletin there is initiated, in a leading article on the Philadelphia Textile School by Dr. E. W. France, the accomplished director, a series of illustrated papers on the textile schools of the United States. The Philadelphia institution is described first because it has been an important pioneer in technical textile education, and because its managers have given particular attention to the demands of the wool manufacture. Articles will follow on the admirably equipped Lowell Textile School, the Rhode Island School of Design, etc. They are all prepared with care and by authority, and the publishers of the Bulletin guarantee that these articles will be brought to the eye of hundreds of active textile manufacturers.

It is the purpose of the Bulletin to have these articles tell quite definitely of the educational policy of each institution, and to discuss possibilities of improvement in plan and scope as distinguished from mere improvements in mechanical equipment. For example, the need of correlation between theoretical instruction and practical application of it during the student course is a subject of the utmost practical importance. As one of the most thoughtful of American wool manufacturers has recently said — “One of the weaknesses of the textile schools has been the impression that upon graduation students were immediately ready for executive positions of responsibility; whereas the textile school course needs to be supplemented by a practical course under mill conditions. The school which first grasps this fact in an adequate manner and provides that its

students must engage in practical duties in mills during their school course, or immediately following, will probably take the most important step in textile education of the present generation."

All the textile schools are fortunately located in active manufacturing centers, where the obtaining of this practical experience, hand in hand with academic instruction, is easily possible. More and more manufacturers are coming to realize how indispensable are these technical institutions to the progress and security of the textile art. Even in the midst of the clash of arms in Europe, able men are considering how existing educational facilities may be improved. A few weeks ago a large conference of British textile manufacturers, called by the chairman of the West Riding County Council, was held at Wakefield, Yorkshire, to consider a plan for promoting textile research and coördinating technical education in the textile industries of the heart of England. So significant was this meeting, so largely attended, so alive with practical interest, that it attracted the attention of the American Consul at Bradford, Mr. Augustus E. Ingram, who has made the conference the theme of one of his valuable reports to the government in Washington.

Vice Chancellor Sadler, of the University of Leeds, delivered the principal address, emphasizing the fact that England was being stirred by a new movement of national unity and coöperation. A great rich trade like the textile, with historic memories, wise with the garnered experience of centuries of skill, and famous for its world-wide achievement, was not merely a mode of earning a livelihood or wealth, but a liberal calling, a form of service to the State, and what in the Middle Ages was called an art or mystery. The old guild spirit has now revived; it is felt in the professions of medicine and teaching; it is felt among artists and craftsmen; it is felt in the idealistic side of the labor movement, and the modern state found in this new willingness to coöperate the brightest hope of national advancement.

Chancellor Sadler declared that the technical schools and universities have had it in their power to render a two-fold service. They could provide training in specialized technology, and in that connection he hoped that they would not forget the late learner or the artisan student. "Let us moderns," he said, "leave no Giotto by the sheepfolds." A second service was the furtherance of scientific research. The spirit of research was

awake at last, he said, in the conservative West Riding. Young men were ready. Manufacturers felt the need. A new era had begun. But research was often very costly, as in artificial silk, nickel, special steel, etc. The firms that had made the research had found their reward abundant. The textile industries promised a rich field. For example, the glutinous material which composed the fiber of wool was one of the substances attracting the notice of a new school of chemists — those who study colloid chemistry; and the "chemists were working hand in hand with the physicists." Some of the more important features of the new Yorkshire undertaking were thus formally described:

Almost without exception industries pass from rule-of-thumb methods to more and more highly developed scientific methods, and that nation which intelligently follows or possibly leads the change is bound to be the dominating nation in the world's markets in world service. For example, we started the color-making industry, but we did not follow up the scientific development wholeheartedly, with the result that the lead has passed from us to Germany.

With the wider views of the duties and privileges of that commercial enterprise which resolves itself into social service, it is obvious that a much greater strain will be placed upon our industrial and commercial leaders in the future, as compared with the past, and only those who take science as a handmaiden and introduce scientific method into both thought and action can hope to face satisfactorily the strenuous years which lie before us.

We may be thankful that, so far as the woolen and worsted industries are concerned, we need not follow, but may actually lead in the movement.

Certain prominent Yorkshire spinners and manufacturers approached the University of Leeds as the institution from which a lead should come. Conferences of both controllers of industry and textile teachers have been held within the university walls, with the result that a very representative executive committee has been elected to place the whole case before the industry, and to ask for that support (moral and financial) which will enable:

(a) The educational net to be cast wide and the whole of the rising generation brought within its folds in order that those capable of profiting by a prolonged education may be selected with care and certainty. (The far heavier expenses of later education will be saved by such careful selection at this comparatively early stage.)

(b) The talented students selected for the prolonged courses to be given every possible advantage in science and technology, the combined courses of study throughout the West Riding

leading up to the university and technical college diploma, and finally to degree courses in the University of Leeds.

(c) The development of higher commercial courses in which languages (Russian and Spanish particularly), salesmanship and the psychology of business, industrial economics, science and technology are so blended that our Consular Service and our commercial representatives in the future may be mentally equipped as they have never been in the past.

(d) The development of research and research methods so that not only may the University of Leeds and the larger technical colleges of the county be associated in specific researches, but also that, by the development of a school of research, research methods may in the future stimulate the minds and actions of those who are destined to be the leaders of industrial and commercial enterprise.

It may be pointed out that *c* and *d* will necessitate considerable expenditure on the development of research in the University of Leeds and in the larger technical colleges of the West Riding, and the provision of traveling and other scholarships in connection with the higher commercial courses outlined.

There can be no doubt that as soon as the war is over the Germans and the French will devote themselves with feverish energy to the improvement of all their technical processes of manufacturing, with an intense resolve to enter again into their accustomed markets of the world. Meanwhile, American technical education must be quickened and expanded before the war has closed. Dr. France, in his very interesting paper, lays particular stress upon the development of the artistic quality in American production. There is need of such an admonition, for our competitors, when they return to their accustomed tasks of peace and set their machinery again a-running, will return with their wits quickened by their stern and adventurous soldier life. Much of their undue conservatism will have fallen from them. They will be more hospitable to new ideas, new methods. They will have a higher appreciation than ever before of what their technical schools can give them. Liberality of individuals and of State and municipal governments toward the textile training institutions of this country was never more necessary than now, and never more certain to yield a great reward in a spirit of strengthened confidence and advanced efficiency.

TOO MUCH "OVERGOVERNMENT."

THE POINTED VIEWS OF ONE GOOD REPRESENTATIVE
MAN OF BUSINESS.

A VERY sagacious and successful wool manufacturer of eastern Massachusetts, in enclosing his replies for the Industrial Inventory for the Army and Navy of 1916, makes some concise observations which will doubtless evoke a cordial "amen" from manufacturers in general :

This is the fifth instrument that we have filled out in this mill office in the six months of the year 1916 for State and Federal government departments. If ever there was a time when the people of the United States were overgoverned, it is now. If ever there was a time when freedom, which was fought for so strongly and stoutly in the year 1215, June 15th,* and on various occasions from that time to the present by those who have always desired freedom, freedom of conscience, freedom of religion, freedom to conduct their affairs for the best interests of themselves and the community, the time has now arrived for a strong stand to be taken by lovers of freedom, not by lovers of license.

Many of those in this nation who have gone down through the past twenty-five years dreaming have had a rude awakening since August 5, 1914. It is a great pity that they could not have had a more severe one. I, for one, regret very much that this war broke out in August, 1914, that it was not postponed by the German staff and Emperor until 1917, if not postponed forever. Then, during the last few years of this present Administration, we should have learned something that evidently was not taught us fully in 1893.

This nation has got to pass through severe travail and suffering. It is only by such things that nations are re-baptized and re-born. The sooner this is brought about the better, although many of us will regret that such has to be the case. We are overgoverned, and the result of overgovernment is on exhibition in Europe, created by imperialism and militarism.

That these, in substance, are the views of many thoughtful business men is demonstrated repeatedly by expressions of opinion — less trenchant, perhaps, but none the less significant — from manufacturers who are not given to pessimism and are not without faith in their time and country. It is undoubtedly true that through a lack of coördination, and perhaps from a political

* The date when King John granted the Magna Carta.

curiosity to pry too much into business affairs, the departments of our government are asking too much of business men and creating a belief that the breach between government and business in the United States is swiftly and hopelessly widening.

Too many good Americans have been led by recent events to regard the Capital of their nation and the National Senate and House as a part of the "enemy's country." There has certainly never been a year from the founding of this republic, when the men who pay the wages that fundamentally make government and nation possible have felt such a constant sense of hostility whenever they have thought of Washington. This army and navy inquiry was received in good spirit and acted on as promptly as possible — but it is not always so.

AN AMERICAN LINEN INDUSTRY.

USEFUL INFORMATION FROM THE DEPARTMENT OF COMMERCE — BUT THE DECISIVE RECOMMENDATION IS LEFT OUT.

A full and interesting report on the "Development of an American Linen Industry" has been prepared by Mr. W. A. Graham Clark, Commercial Agent, and published as No. 122 in the Special Agents Series by the Bureau of Foreign and Domestic Commerce of the Department of Commerce in Washington. Mr. Clark, who has been personally engaged in the cotton manufacture and has prepared for the government textile reports, including one, unfortunately too much hurried, on the wool manufacture, made three years ago a study of linen manufacturing in Ireland and Scotland.

He considers first the production of flax fiber. Russia, as is well known, holds foremost place as a flax growing country, with 85 per cent of the total in the year 1909. The world over, the production of flax is gradually increasing, according to the best estimates of the Bureau of the Census — having advanced from 1,007,224,000 pounds in 1899 to 1,872,127,000 pounds ten years later. Only about one-fifth of 1 per cent of the world's flax, or 4,000,000 pounds in 1909, is produced in the United States. As is well known, farmers in this country who grow flax value it for the resultant flaxseed or linseed, which is crushed to obtain the linseed oil of commerce, while the linseed cake and meal are utilized for feeding cattle.

Ireland has a great place in the linen manufacturing industry, but very little flax is produced in the Green Isle, and only 26,934,000 pounds, or 1.44 per cent of the world's supply, is grown in the entire United Kingdom. Russia long has been and promises to continue to be the great source of production of flax fiber. In France, Great Britain, and in other countries in general, flax raising is barely holding its own, or is actually declining. The abundance of cheap and patient labor in the Russian Empire is undoubtedly the reason for its increase there. Contrary to the general belief Mr. Clark declares that the soil and the climate of this country are well adapted to the raising of flax, but of about 3,000,000 acres in flax here the Department of Agriculture states that only about 2,000 acres were devoted to the actual raising of flax for fiber.

Though both seed and fiber can be secured from the same flax, and are secured to a certain extent, Mr. Clark holds that "The fact should be clearly kept in mind that flax growing for seed and flax growing for fiber are separate and distinct industries." "If raised for fiber, the plants are pulled before the seeds fully mature; otherwise so much oil would be drawn up into the seed that the stalk would be left too dry and the fiber produced too harsh for any but the coarsest uses."

Though Russia leads in flax growing, the United Kingdom is head and shoulders above the rest of the world in flax manufacturing, with 1,168,005 spindles engaged in the industry, as compared with 577,449 in France, 358,000 in Russia, 321,494 in Belgium, 296,833 in Austria-Hungary, and 287,009 in Germany. The United States in 1914, according to the data of the International Federation of Flax and Tow Spinners' Associations, had only 67,412 spindles. Most of the spindles of the United Kingdom, or 955,471, are in Ireland, and the Province of Ulster, with Belfast as its capital, remains the real linen center of the world.

The moist, temperate climate of Ireland is particularly adapted to the linen manufacture, for in Ireland linen can be bleached out-of-doors all the year round. Ireland's advantage in this respect is so conspicuous that Mr. Clark states that "the best of the Continental linens are sent to Ireland to be bleached; its only competitors are some of the bleaching greens in northern France." Irish bleaching mills are away from the smoke and dirt of the towns in the open country, with grassy fields and clear running streams about them. For the finest goods the grassing

is not a single operation, but is repeated several times, with intermediate bleach-mill processes of boiling in soda lye, washing, rubbing, etc. Each process of grassing requires several days. In the United States there are no linen bleaching mills, and only for a small part of the year is our northern climate suitable for outdoors grass bleaching.

The Irish industry is a complex one, as witness these long processes:

Linen fabric (standard style). Lime-boiling; washing, souring; washing; first lye boil; washing; chemicking; washing; souring; washing, second lye boil; washing; grassing, chemicking; washing, souring; washing, scalding, washing; chemicking; washing; souring; washing, scutching; water mangling; starching and blueing; beetling; breadthening; calendering; lapping.

The linen manufacture was successfully pursued in Belgium prior to the present war; the sluggish waters of the River Lys, now within the war zone, seemed to have some special property for the process of fermenting or retting the bundles of flax straw to produce a specially fine fiber. "As a result Courtrai flax is considered the finest produced." But the process is a forbidding one, for the air all about is poisoned and the stream is sadly polluted.

No very encouraging prospect is held out by Mr. Clark in this report for the extension of the linen manufacture in the United States. In Great Britain and on the Continent the industry seems to be prosperous only where there is a large surplus of women. Linen mills have disappeared from England and West Scotland, even the jute mills of Scotland proving the more attractive. Mr. Clark cites the latest statistics, those of 1907, to show that at that time, while full-time workers in British cotton mills received wages averaging \$4.77 a week, in British woolen and worsted mills \$3.83 and in the jute mills \$3.47, the wages of the workers in flax manufacture averaged only \$2.92 a week. Though wages have since increased, no accurate figures are at present available.

Flax machinery is heavy and costly. The number of employees the industry requires is relatively high, and there is always difficulty in the handling of the slippery and inelastic fiber. "The main drawback to manufacturing in this country," says Mr. Clark, "is the higher scale of wages; this is of increasing

importance in making fine goods, where the labor cost is a higher proportion of the total cost."

Yet there are some well-managed and successful linen manufacturing concerns in the United States. The linen thread industry is of much importance — the Smith & Dove Manufacturing Company of Andover, the J. E. Barbour Company of New Jersey, and some others using considerable amounts of flax in the manufacture of linen thread and yarn. Linen twine also is produced here. Though the concerns weaving linen are relatively few, they are vigorous enterprises. Conspicuous among them is the Stevens Linen Works of Webster, Mass., largest of American establishments, with 7,600 flax spindles and 640 looms. Next comes the Phoenix Linen Company of North Brookfield, Mass., with 6,420 spindles and 260 looms. There are also the Meredith Linen Mills of Meredith, N. H., with 2,000 spindles and 100 looms, and half a dozen other substantial enterprises. Only one mill is using American-grown flax for the manufacture of coarse dress linens. Linen crash for toweling and upholstering is the principal product of American linen mills, though a few concerns are equipped for the making of napkins and specialties.

The United States, the world's largest user of linen goods, has received its linen manufactures almost wholly from abroad, except for linen crashes, etc. In the year 1913, before the great war, our imports of linen fabrics, including handkerchiefs, linen embroideries, laces, etc., were valued at \$28,208,884. In 1914 our imports were only \$14,755,043, or about one-half the normal supply. The war has compelled a large substitution of cotton goods, and there is an urgent demand in this country for real linen manufactures. "Higher first cost of mill and machinery, higher wages, and lack of experience," says Mr. Clark in his conclusion, "have militated against the manufacture of linens in the United States. The finer the goods the higher the percentage of labor cost and the more difficult to compete against imports from Europe; therefore it would seem to be the wisest policy in developing this industry to confine the output at first to goods of coarse and medium counts. On the lower-grade goods there would at this time be a good profit, even considering the fact that the American buyer is accustomed to the European product, for the supply is less than half the demand, and once established there would be a large market."

But all that Mr. Clark as a Commercial Agent, under a tariff-for-revenue-only Administration, sees his way clear to recommend in the way of national preferential legislation is the suggestion that "The first cost of the equipment of new mills would be much reduced if the tariff were so amended as to permit flax preparing and spinning machinery to enter free. Such machinery is not made in this country. It would also be in the interest of the development of this industry to have enacted stringent laws that would prevent cotton goods being sold as linen."

All this is very well so far as it goes, but it is like all reports prepared under such constraint—it stops short of the really vital and decisive recommendation. Linen manufacturing on a general scale in the United States would be an infant industry, and as such Jefferson or Madison or Jackson would have frankly favored protection. But present Democratic leadership is of the narrower school of Calhoun, who, though like other Democratic leaders, a protectionist by inclination and conviction, became a free trader because the slave labor of the South did not lend itself readily to the manufacturing business, and because New England, New York, and Pennsylvania, where, in the ante-bellum era, mills flourished most, were conspicuous for aggressive abolition sentiment. President Wilson and Secretary Redfield are utterly opposed to protection per se, and even if compelled by world events to grant any tariff rate, make the concession grudgingly and ineffectively—as in the case of the new dyestuff duties considered elsewhere in this Bulletin.

RE-REVISED BRITISH TERMS.

THE NEW SELLING METHOD OF ENGLISH AND SCOTCH WOOLEN MILLS AS FINALLY ESTABLISHED.

ALTHOUGH it was necessary to make certain changes in the selling terms of English and Scotch wool manufactures before the new method, noted in the Bulletin for July, 1916, went into effect on August 1 last, even this revised plan has not proved wholly satisfactory. It has been found advisable to make still other amendments, out of respect to British conservatism and deep-rooted trade practices. The subject has been one of lively debate between merchants and clothiers on the one hand, and

manufacturers on the other. As now re-revised the agreement, bearing date of July 12, 1916, and applying to orders or confirmations received by woolen and worsted manufacturers on and after August 1, 1916, is as follows :

1. (a) All goods dispatched in any calendar month (but subject to the delivery of the goods and to the terms of subsection c of this section) shall be paid for in cash, subject to a discount of (I.) 4 per cent if paid on or before the 10th of the month following dispatch ; or (II.) $3\frac{1}{2}$ per cent if paid on or before the 10th of the second month following dispatch ; or (III.) 3 per cent if paid on or before the 10th of the third month following dispatch ; or (IV.) $2\frac{1}{2}$ per cent if paid on or before the 10th of the fourth month following dispatch, when, if not previously paid, payment shall be made, unless at the option of the manufacturer he agrees to take a bill or promissory note for a further period not exceeding three months. The bill or note shall be for the amount of the invoice less the discount of $2\frac{1}{2}$ per cent, with the addition of interest on the net amount for the period of the bill or note at the rate $7\frac{1}{2}$ per cent per annum.

CONDITIONS OF PAYMENTS ON OTHER THAN SPECIFIED DATES.

(b) If payments are made on dates other than the specified dates above provided, the discount to be allowed shall be the rate provided for the specified date immediately following payment, but interest at the rate of 6 per cent per annum shall be allowed for the period from the date of payment to such specified date upon all amounts so paid before the 10th of the fourth month following dispatch. The manufacturer shall also allow interest at the same rate from the date of payment to the 10th of the first month following dispatch upon any amounts paid before such date.

(c) All goods dispatched in any month, but not delivered in the United Kingdom until after the 5th of the month following, shall be paid for as if dispatched in the month of delivery, but if delivered in the first five days of any month subsequent to the month of dispatch, the goods shall be paid for as if dispatched in the month immediately preceding the month of delivery.

(d) By agreement with a purchaser a manufacturer may sell (I.) for net cash ; or (II.) for payment in cash (less the appropriate discount) on any date mentioned in subsection a ; or (III.) on any shorter terms or at a lower rate of discount, but in no case shall he sell on longer terms or allow a higher rate of, or extra discount, or any bonus, rebate, commission, or other concession ; provided that, apart from agreement, the terms of payment set out in subsections a, b, and c hereof shall prevail.

REGULATION FORBIDS ANY DATING FORWARD.

2. No dating forward shall be allowed. Every order shall specify a definite date for completion which shall be subject to the manufacturer agreeing thereto, and every order shall be subject to any conditions of acceptance additional to those herein contained.

3. These terms shall apply only to trade, so far as goods are sold in sterling, but no more favorable conditions shall be granted to purchasers in currency other than sterling.

4. Every piece shall be measured 38 inches to the yard, and no further over-measure or allowance for shrinking shall be given. Provided that sales may be made on a 36-inch basis (a) of classes of goods customarily sold before August, 1914, on a 36-inch basis; or (b) to purchasers who customarily bought before August, 1914, on a 36-inch basis; or (c) where a 36-inch basis is agreed upon between a manufacturer and his customer, but in such case the price shall not be more than $5\frac{1}{2}$ per cent below that which would be quoted on a 38-inch basis.

5. Carriage on goods will be paid by the manufacturer to the primary place of destination; or, in the case of goods shipped direct abroad, to the port of shipment only. If goods are ordered to be delivered to a shrinker, the place of business of the shrinker will be considered the primary place of destination, unless the goods are collected free of cost by the shrinker.

6. All patterns 27 inches or more wide, and all patterns of whatever dimensions of an area of 243 square inches or more, shall be paid for in full.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of the Bulletin of the National Association of Wool Manufacturers, published quarterly, at 683 Atlantic Avenue, Boston, Mass., for October 1, 1916.

STATE OF MASSACHUSETTS } ss.
COUNTY OF SUFFOLK }

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared Winthrop L. Marvin, who, having been duly sworn according to law, deposes and says that he is the Editor of the Bulletin of the National Association of Wool Manufacturers, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, National Association of Wool Manufacturers, 683 Atlantic Avenue, Boston, Mass.

Editor, WINTHROP L. MARVIN, 683 Atlantic Avenue, Boston, Mass.

Managing Editor, none.

Business Managers, none.

2. That the owners are (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock):

National Association of Wool Manufacturers, 683 Atlantic Avenue, Boston, Mass., the principal officers being: *President*, John P. Wood, Philadelphia, Pa.; *Vice-Presidents*, William M. Wood, Boston, Mass.; Frederic S. Clark, North Billerica, Mass.; George H. Hodgson, Cleveland, O.; *Secretary and Treasurer*, Winthrop L. Marvin, Boston, Mass.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are (If there are none, so state):

There are no bonds, mortgages or securities of any kind.

WINTHROP L. MARVIN,
Editor.

Sworn to and subscribed before me this 10th day of October, 1916.

JAMES G. HILL,
Notary Public.
(*My commission expires March 25, 1921.*)

DECISIONS OF THE TREASURY DEPARTMENT ON THE WOOLEN TARIFF.

(T.D. 36510.)

Mohair coat linings.

ROSENBERG & Co. v. UNITED STATES (No. 1587).

1. **CONSTRUCTION — LEGISLATIVE HISTORY SHOWING INTENT.** — The language of successive tariff acts shows that Congress has always either considered the hair of the Angora goat not to be wool, or has thought it best, for purposes of greater certainty, to refer specially to it and treat it independently of wool as a subject of classification.
2. **CONSTRUCTION — LEGISLATIVE HISTORY SHOWING INTENT.** — The history of the passage of the tariff act of 1913 indicates that Congress intended to impose a higher rate of duty upon the products, fabrics, and manufactures of the hair of the Angora goat than upon similar articles when composed of the hair of certain other animals.
3. **CONSTRUCTION — CHANGE OF LANGUAGE SIGNIFYING CHANGE OF MEANING.** — In the tariff acts of 1897 (par. 383) and 1909 (par. 395) it was provided that when the word "wool" is used in connection with a manufactured article of which it is a component material it shall be held to include the wool or hair of the sheep, camel, goat, alpaca, or other animal. The corresponding provision in the tariff act of 1913 (par. 304) omits the words "goat, alpaca," and changes the broad provision "other animal" to the narrower one "other like animals." To hold that a manufacture of wool, under the tariff act of 1913, includes a manufacture of Angora goat hair would be to deny any meaning to this change in legislative language.
4. **CONSTRUCTION AIDED BY CONTEXT — TAUTOLOGY TO BE AVOIDED.** — Paragraphs 305 to 309, inclusive, tariff act of 1913, levy duty upon the hair of the Angora goat and products, fabrics, and manufactures of it. If the term "wool," as used in the act in connection with manufactures, includes Angora goat hair, these provisions are unnecessary.
5. **CONSTRUCTION — GENERAL DESCRIPTION PREVAILS OVER *EO NOMINE* ONE IF CONGRESS SO INTENDED.** — The rule that an *eo nomine* designation prevails over a general description must give way to an expressed intention of Congress to the contrary.
6. **ANGORA GOAT HAIR LININGS IN THE PIECE, HOW DUTIABLE.** — Angora goat hair coat linings, not cut to form or shape, are dutiable as a manufacture of Angora goat hair under paragraph 308, tariff act of 1913, and not as coat linings of wool under paragraph 290.

United States Court of Customs Appeals, May 31, 1916.

APPEAL from Board of United States General Appraisers, G.A. 7741 (T.D. 35541).

[Affirmed.]

Curie, Smith & Maxwell (*Thomas M. Lane* of counsel) for appellants.
Bert Hanson, Assistant Attorney General (*Charles D. Lawrence*, special attorney, of counsel), for the United States.

[Oral argument December 10, 1915, by Mr. Lane and Mr. Lawrence.]

Before SMITH, BARBER, DE VRIES, and MARTIN, Judges.

BARBER, Judge, delivered the opinion of the court:

The merchandise in this case, it is agreed, is so-called coat linings and is in chief value of the hair of the Angora goat. As represented

by the sample submitted, it appears to be thin cloths, of various colors, apparently imported in the web or piece. It is not cut to form or shape and we understand is to be used as material.

There is no issue of fact, the sole controversy being whether the merchandise shall be classified under paragraph 308 of Schedule K of the tariff act of 1913, as claimed by the Government and held by the Board of General Appraisers, or under paragraph 290 thereof, as claimed by the importers. These paragraphs are as follows:

290. Women's and children's dress goods, coat linings, Italian cloths, bunting, and goods of similar description and character, composed wholly or in chief value of wool, and not specially provided for in this section, 35 per centum ad valorem.

308. Cloth and all manufactures of every description made by any process, wholly or in chief value of the hair of the Angora goat, alpaca, and other like animals, not specially provided for in this section, 40 per centum ad valorem.

As the determination of the question involves the construction of paragraph 304, that also is here quoted:

304. Whenever in this section the word "wool" is used in connection with a manufactured article of which it is a component material, it shall be held to include wool or hair of the sheep, camel, or other like animals, whether manufactured by the woolen, worsted, felt, or any other process.

The importers' contention is that the term "wool," both in its common meaning and as used in said Schedule K, includes the hair of the Angora goat; that therefore "wool" as used in paragraph 290 includes such hair; that the term "coat linings" employed in said paragraph is an *eo nomine* description of the merchandise here, and takes precedence over the generic name "cloth" in paragraph 308, as well as over the descriptive designation "all manufactures of every description made by any process, wholly or in chief value of the hair of the Angora goat," also contained therein; and finally, that there is nothing in the language or legislative history of Schedule K showing an intention to remove "coat linings" from their long-established classification under paragraph 290 and its predecessors.

For the Government it is argued that Congress, in framing the act of 1913, has shown a definite purpose to clearly distinguish Angora goat's hair, alpaca hair, and their products from wool and its products; that the legislative history of Schedule K gives support to this claim; and hence, that to give full effect to this congressional purpose the classification below must be upheld here.

We first somewhat consider the relevant legislative history.

The tariff acts, prior to that of August 30, 1842, imposed duty upon wool and its products and, so far as we have ascertained, contained no reference whatever to the hair of the camel, goat, or other like animals.

Section 1, paragraphs 1 to 7, of the act of August 30, 1842, assessed duty upon wool, unmanufactured, and upon various manufactures thereof. In paragraph 8 duty was also imposed upon "Thibet, Angora, and all other goat's hair or mohair, unmanufactured," and upon certain mentioned "and all other manufactures of goat's hair or mohair."

The act of July 30, 1848, in Schedule C, made dutiable "manufactures of wool or of which wool shall be the component material of chief value," also "wool unmanufactured;" in Schedule D a different rate of duty was provided for "manufactures of goat's hair or mohair, or of which goat's hair or mohair shall be the component material," and in Schedule E a still different rate was provided for "Angora, Thibet, and other goat's hair or mohair, unmanufactured."

In the act of March 2, 1861, section 12, paragraph 1, duty was levied "on all wool unmanufactured, and all hair of the alpaca, goat, and other like animals unmanufactured."

In the act of June 30, 1864, section 4, like descriptive terms were employed relating to the raw materials, wool and hair, and various duties were assessed upon the same and fabrics and manufactures thereof. In section 5, paragraph 2, of this act, a clear distinction was made between certain articles made of wool and those made of worsted, mohair, alpaca, or goat's hair.

The act of March 2, 1867, section 1, provided "there shall be levied, collected, and paid on all unmanufactured wool, hair of the alpaca, goat, and other like animals, imported from foreign countries, the duties hereinafter provided." All wools, hair of the alpaca, goat, and other like animals, as aforesaid, shall be divided for the purposes of fixing duties to be charged thereon into three classes, to wit, class 1, clothing wool (under this class wools alone are mentioned); class 2, combing wools (under this division certain wools are specified and also all hair of the alpaca, goat, and other like animals); class 3, carpet wools and other similar wools (under this class certain wools and others of a character like those the subject of former importations are named).

Following this classification, the section provides for distinctive samples of the various kinds of wool or hair embraced therein to be prepared by the direction of the Secretary of the Treasury and deposited in the various custom-houses for the purpose of using the same as standards of comparison in determining the classifications last mentioned, and then provides for the duties upon the three classes, the first being upon "wools of the first class," the second being "upon wools of the second class, and upon all hair of the alpaca, goat, and other like animals," and the third being "upon wool of the third class," followed by provisions for various duty rates upon products of these raw materials.

These provisions in Schedule K have from time to time been substantially reenacted in all the tariff acts (except as hereinafter mentioned) to and including paragraph 360 of the act of 1909, the first part of which was as follows:

360. All wools, hair of the camel, goat, alpaca, and other like animals shall be divided, for the purpose of fixing the duties to be charged thereon, into the three following classes: . . .

Then follow provisions in the paragraph for classification thereunder, corresponding to and very like those above mentioned of the act of 1867, and it is therein declared that class 2 shall include certain enumerated combing wools, and the "hair of the camel, Angora goat, alpaca, and other like animals."

The exception to the foregoing legislative treatment of wool and hair for duty purposes may be found in the tariff act of 1894, which in paragraph 685 placed in the free list "all wool of the sheep, hair of the camel, goat, alpaca, and other like animals," while paragraph 279 of Schedule K thereof assessed a duty upon certain wool wastes and upon "wool of the sheep, hair of the camel, goat, alpaca, or other like animals in the form of roving, roping, or tops." In succeeding paragraphs of Schedule K provisions were made for duties upon various yarns, cloths, and other manufactures of wool and hair of the camel, goat, alpaca, or other animals.

It may be observed that in the act of 1890 the word "camel" for the first time appears in Schedule K before the word "goat," in describing the raw materials which are the subject of classification thereunder.

All the tariff acts from that of 1864 to 1894, both inclusive, in paragraphs not herein specially referred to, contain in Schedule K provisions for duty rates upon products, fabrics, and articles composed wholly, or in part, or in chief value, as the case may be, of wool, or of the hair of the goat, alpaca, or other like animals.

In the act of 1897 all detailed reference in each paragraph of Schedule K to the raw materials from which the various things thereunder assessed were made or composed was omitted, and such materials were covered by the use of the word "wool." At the end of the schedule paragraph 383 is found, which reads as follows:

383. Whenever in any schedule of this act the word "wool" is used in connection with a manufactured article of which it is a component material, it shall be held to include the wool or hair of the sheep, camel, goat, alpaca, or other animals, whether manufactured by the woolen, worsted, felt, or any other process.

Schedule K in the act of 1909 affords similar treatment of the subject matter thereof, and its closing paragraph (395) is practically identical with that last quoted.

Paragraph 304 of the act of 1913, already quoted, is identical for the purposes of this case with paragraph 395 of the act of 1909, except that the words "goat, alpaca" are omitted and "other animal" is changed to "other like animals."

So far as we are advised, the term "coat linings" first appeared in Schedule K of the act of 1883, wherein it was provided that "women's and children's dress goods, coat linings, Italian cloths, and goods of like description composed in part of wool, worsted, the hair of the alpaca, goat, or other animals" should be subjected to certain specific and ad valorem duties. The quoted provision, in substantially identical language, was reenacted in Schedule K of the acts of 1890 and 1894, but in 1897 the component material was referred to as "wool," in harmony with a like reference to component raw materials in other paragraphs of Schedule K, already pointed out.

We think this review of legislative history establishes that prior to the tariff act of 1913 Congress, in providing for the assessment of duty upon the hair of the Angora goat and for articles the duty on which was based upon the fact that such hair was a component material thereof, either did not consider it to be wool or, for purposes of greater certainty, thought best to refer specially thereto and treat the same independently as a subject of classification. Upon no other theory can the persistent coupling of the material "wool" with that of the hair of the Angora goat be accounted for. If the word "wool," for the purposes of the duty paragraphs, was sufficient to include the "hair of the goat," it was unnecessary to use the latter term.

In the case of *United States v. Klump* (169 U.S., 209, 216, 217) the Supreme Court said, discussing various tariff provisions herein referred to:

Doubtless wool considered as the sheep's coat might be said to be the sheep's hair, and fleeces of the hair of the Angora goat, the llama, the alpaca, and other like animals, might be called their wool . . . But the acts of 1890 and 1894, as well as prior tariff acts, distinguished the wool of the sheep from the hair of the camel, goat, and other like animals, as raw materials.

See also *Oppenheimer v. United States* (90 Fed., 796) and *Wolff v. United States* (113 Fed., 1001).

Coming now to the tariff act of 1913, we observe that Schedule K omits the provision for duty upon raw wool, but in paragraph 286 thereof assesses an 8 per cent ad valorem duty upon combed wool or tops and roving or roping made wholly or in part of wool or camel's hair, and on other wool and hair which have been advanced in any manner or by any process of manufacture beyond the washed or scoured condition, not specially provided for in this section. This is followed in succeeding paragraphs by provisions for various rates of duty upon divers manufactures of wool, with a declaration in paragraph 304, above

quoted, that the word "wool," when used in connection with a manufactured article of which it is a component material "shall be held to include wool or hair of the sheep, camel, or other like animals, whether manufactured by the woolen, worsted, felt, or any other process." This omission of the words "goat, alpaca," found in the predecessor paragraphs and the other changes in phraseology at once suggest that Congress did not intend the word "wool," when used to describe the component material of any manufactured articles, at least so far as the duty paragraphs are concerned, should be held to include the hair of the Angora goat, alpaca, and other like animals. By no other construction can full force be given to this deliberate omission of the words "goat, alpaca" by Congress, and that it was so intended is entirely obvious from the provisions in paragraphs 305 to 309, both inclusive, which immediately follow.

Paragraph 305 expressly imposes a duty upon "hair of the Angora goat, alpaca, and other like animals," and the succeeding-named paragraphs declare dutiable certain products and fabrics thereof, and also "all manufactures of every description made by any process" wholly or in chief value of such materials.

As one of the facts in the history of this legislation we have examined to some extent the proceedings before the Ways and Means Committee, which had charge of the preparation, not only of the tariff act of 1909, but of 1913 as well. Briefly referring to those of 1909, it appears that it was represented to the committee that the hair of the Angora goat and its products ought, for the purpose of protecting that industry, to be assessed at a higher rate of duty than wool and its products. Evidence was given tending to show that Angora goat raising in this country mainly existed in Texas, where it had been of commercial importance for then about 12 years. See volume 5, Tariff Hearings, 1908-9 (pp. 527 *et seq.*). These representations, however, did not result in the requested change in the law.

The matter was again brought to the attention of the committee in its preparation of the tariff act of 1913. See volume 4 of the Tariff Schedules Hearings (pp. 4287-4306). Representatives of producers of Angora goat hair, as well as manufacturers thereof in this country, appeared before the committee, asking that the raw material and the manufactured products thereof should be assessed at a higher rate than wool and its products, upon the ground that it cost more to produce mohair (Angora goat hair) than wool. A witness told the committee that mohair was nothing like wool except that it grew upon an animal; that it was no more like wool than cotton, and that different products were made from it. The bill as reported from the committee, and which finally became the law we are considering, strongly suggests that these representations bore a desired fruit. The committee in its report accompanying the bill, at page XXIV., in a paragraph entitled, "Manu-

factures of Wool," said that it had given Schedule K very careful study, and that the "result has been to make raw wool free of duty," and to give a material reduction in the products and fabrics thereof.

Resurveying now, briefly, the whole situation, these facts stand out in bold relief: Prior to the act of 1913 and during the life of several preceding tariff acts, goat's hair, sometimes specially including the hair of the Angora goat, and at other times not, had been *eo nomine* referred to in connection with wool, accompanied by the declaration that "for the purpose of fixing the duties to be charged thereon" all wools and the hair of the goat should be classified as therein prescribed; that in the later of these acts it was purposely declared, evidently to save tautology, that when wool was referred to in connection with manufactured articles it should be held to include the hair of the goat, alpaca, or other animals; that following the recited representations made to the committee having in charge the tariff act of 1913 the hair of the Angora goat, alpaca, and other like animals was for duty purposes at least segregated from wool and declared to be dutiable; that raw wools and the hairs of certain animals were given free entry, and a higher rate of duty was imposed upon the products, fabrics, and manufactures of the hair of the "Angora goat, alpaca, and other like animals" than was imposed therein upon similar articles when composed of wool, as legislatively defined; not only this, but also that Congress took pains to declare that "wool," when used in connection with a manufactured article of which it was a component material, should be held to include not wool or hair of the sheep, camel, goat, alpaca, or other animal, as had been declared in previous acts, but that it should be held to include wool or hair of the sheep, camel, or other like animals, thereby excluding the hair of the Angora goat.

We are now asked to say that, notwithstanding these salient facts, the hair of the Angora goat is nevertheless wool for one of the purposes of paragraph 290. It is obvious, if this be done, that it would clearly be disregarding the mandate of Congress, implied by this change of language from paragraph 395 of the act of 1909 to that of paragraph 304 in the act of 1913, that the hair of the Angora goat should not be so held.

The coat linings in this case being cloth in chief value of Angora goat hair and being also confessedly a manufacture thereof, we think they cannot be classified as claimed by the importers.

While it is true, as urged by the importers, that the doctrine that an *eo nomine* description takes precedence over a general one is well established, yet that rule is one of construction only and has been adopted and recognized for the purpose of ascertaining the legislative intent. This rule, however, must be taken with the qualification that if Congress has indicated in a given case its intent that such a rule is not to apply it cannot in such case be successfully invoked. *Cohn v. United States* (4 Ct. Cust. Appl., 378; T.D. 33536).

Holding as we do that the clear intent of the Congress in the act of 1913 was for the purpose of assessing duties upon Angora goat hair, the named products "and all manufactures of every description" wholly or in chief value thereof, to place the same in a class by themselves, it becomes unnecessary to consider any other of the importers' contentions.

The conclusion reached in the case of *Crimmins v. United States* (6 Ct. Cust. Apps., 137; T.D. 35392), cited by the importers, is not conclusive of the issue here. The Angora goat hair waste there under consideration was not, and was not claimed to be, within any of the provisions of paragraphs 305 to 309, both inclusive. Moreover, it was said in that case that those paragraphs levied "a duty upon every seemingly possible condition of the hair of the Angora goat," within which characterization the merchandise here confessedly is.

The judgment of the Board of General Appraisers is *affirmed*.

SMITH and MARTIN, Judges, concur in the opinion; MONTGOMERY, Presiding Judge, concurs in the result.

CONCURRING OPINION.

DE VRIES, Judge:

Because to my mind the logic of the opinion herein clearly conflicts with the decision of this court in *Crimmins & Peirce et al., v. United States* (6 Ct. Cust. Apps., 137; T.D. 35392), I am, on careful review, unable to assent herein.

The one decisive issue in that case turned upon the question whether or not paragraph 290 of the tariff act of 1913 included the hair of the Angora goat. It was there said:

The more seriously controverted question in the case is whether or not the hair of the Angora goat is a "wool" within the meaning and as used in the tariff act of 1913.

The conspectus of the legislation of Schedule K of the tariff act of 1913 reveals an apparent legislative classification conduced to the same result. The schedule consists of paragraphs 286 to 310, inclusive. Paragraph 304 therein defines wool as used in connection with any manufactured article of which it is a component material. The paragraph reads:

304. Whenever in this section the word "wool" is used in connection with a manufactured article of which it is a component material it shall be held to include wool or hair of the sheep, camel, or other like animals, whether manufactured by the woolen, worsted, felt, or any other process.

Aside from the force of the above correlated definitions, which uniformly when read together speak of the wool of "other like animals" and at the same time enumerate and classify as one of the "like animals" to the wool-producing sheep the Angora goat, the inquiry what

is meant by "other *like* animals" is not difficult of conception when taken in connection with the purpose of the paragraph. That purpose is, of course, to include within the paragraphs and at the rates of duty therein prescribed all similar materials. The schedule is a classification and enumeration of materials, and not animals.

"Like" animals, therefore, does not refer to physical construction or appearance of the animal itself, but to the fleece produced by and from the animal; and, therefore, embraced within the scope of other like animals must be included all animals producing wool or hair like that of the sheep or camel, of which the hair of the Angora goat, alpaca, and others are distinctly and unquestionably of a class.

The opinion submitted, after reviewing the pertinent legislative acts and history, concludes:

Coming now to the tariff act of 1913 we observe that Schedule K omits the provision for duty upon raw wool, but in paragraph 286 thereof provides for "combed wool or tops and roving or roping made wholly or in part of wool or camel's hair, and on other wool and hair which have been advanced in any manner or by any process of manufacture beyond the washed or scoured condition, not specially provided for." This is followed in succeeding paragraphs by provisions for various rates of duty upon divers manufactures of wool, with a declaration in paragraph 304, above quoted, that the word "wool" when used in connection with a manufactured article of which it is a component material "shall be held to include wool or hair of the sheep, camel, or other like animals, whether manufactured by the woolen, worsted, felt, or any other process." This omission of the words "goat, alpaca" found in the predecessor paragraph and the other changes in phraseology at once suggests that for duty purposes the word "wool" as used in Schedule K does not include the hair of the Angora goat, alpaca, and other like animals. By no other construction can full force be given to this deliberate congressional omission, and that it was so intended is entirely obvious from the provisions in paragraphs 305 to 309, both inclusive, which immediately follow.

On the merits I am quite ready to concede and assert that the Congress has from time immemorial and in this act, observed as distinct tariff classifications the wool of the sheep and the hair of the camel, alpaca, etc. But it does not follow that because it has so regarded that paragraph 304, defining the word "wool" as used in paragraph 290, does not by its express terms include both classes of imports. That observance did not divest Congress of the power to declare, as it has in paragraph 290, that the use of the word "wool" should include both.

It was equally within the power of Congress, by paragraphs 305 to 309, inclusive, to legislatively segregate from the materials and articles declared in paragraph 304 to be included in the term "wool," by confining the legislation in these paragraphs to that class of wools as defined in paragraph 304, more commonly known as the "hair" of the Angora goat, alpaca, and other like (hair) animals, thereby intending

to construe and constitute ~~said~~ paragraphs 305 to 309 the exclusive legislative code more specifically providing duties upon the raw materials and manufactures of those wools, which are "hairs of the Angora goat, alpaca, and animals of like hairs."

In the earlier decision the court adopted the view that the force of the words of "other *like* animals" in that paragraph included therewithin the hair of the alpaca. While the opinion before us holds that only "wool" of the "sheep" is included in paragraph 304, the very terms of the paragraph are extended by Congress, not only to the "wool" of the sheep, but to the "wool or hair of the sheep, camel, or other *like* animals." While Congress dropped from the paragraph as it appeared in the act of 1909 part of its lengthy enumeration of hair-growing animals, "goat" and "alpaca," nevertheless it inserted the word "like," thereby in shorter form, but expressly predicated the paragraph not only of the "wool of the sheep," but also of the "hair of the camel, and other *like* animals."

From my limited point of view the purpose of Congress in this schedule in its differentiation between the wool of the sheep and the hair of the Angora goat, alpaca, and like animals for dutiable purposes is unmistakable. It seems to me that from paragraphs 286 to 304, inclusive, Congress legislated with reference to manufactures, as stated in paragraph 304, including those made of the wool of the sheep and the hair of the camel, Angora goat, alpaca, and other like animals. In paragraphs 305 to 308, however, Congress differentiated for dutiable purposes both wool from hair as raw materials and manufactures thereof, confining the legislation expressly to the hair of the Angora goat and alpaca. These four paragraphs, to my mind, are intended to be complete and exhaustive as to the subject matter of the hair of the Angora goat and alpaca and manufactures thereof. Bearing in mind that while Congress ever has distinguished between these as tariff subjects when it came to placing duty thereupon, Congress was careful in paragraph 304 to include both the wool of the sheep and the hair of the camel and other like animals. When, however, it proceeded in paragraphs 305, 306, 307, and 308, it confined itself to the differentiated subjects "hair of the Angora goat, alpaca, and other like animals." What like animals? Not like animals to the sheep, but like animals to the Angora goat and alpaca alone. In paragraph 304, however, it relates the legislation to the wool of the sheep and the hair of the camel and other like animals to all of these. While the result is the same, I think the differentiation more clearly follows the purpose of Congress and does not destroy the relation of the whole schedule to other paragraphs of the tariff act.

I concur in the conclusion.

(T.D. 36582 — G.A. 7939.)

Slippers — Component material.

An article whose component materials are leather, wool, and cattle hair, leather being the most valuable of the three materials, where the cattle hair and wool together would be of greater value than the leather, would not be classified as wool chief value by treating the cattle hair as wool by construction and adding it to the wool component, but the three single components must be separated and the article classified as in chief value of leather.

United States General Appraisers, New York, July 19, 1916.

In the matter of protest 783594 of American Shipping Co. against the assessment of duty by the collector of customs at the port of New York.

[Reversed.]

Strauss & Hedges (Jacob L. Klingaman of counsel) for the importer.

Bert Hanson, Assistant Attorney General (Charles D. Lawrence, special attorney), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers; SULLIVAN, G.A., not participating).

BROWN, *General Appraiser*: This suit is brought to determine whether certain shoes or slippers composed of wool, leather, and other materials are properly dutiable, as classified by the collector, under paragraph 291 as —

Clothing, ready-made, and articles of wearing apparel of every description, . . . composed wholly or in chief value of wool, 35 per centum ad valorem,

or free of duty under the provision in paragraph 530 of the free list covering —

Boots and shoes made wholly or in chief value of leather.

The collector, on advice of the appraiser, accepted the itemized figures of value given on the invoice, which on item 16030 5/6 (which is taken for purposes of illustration) give the following percentages:

	Per cent.
Value of leather sole and leather binding, including wages for clicking and stitching.....	34
Value of upper woolen, including wages for clicking and stitching	28
Value of cotton lining.....	11
Value of felt cow-hair between-sole	11
Wages and sundries	16

This on the face of it would make leather chief value and bring the goods under paragraph 530. But the appraiser added the 28 per cent (woolen upper) to the 11 per cent (felt cow-hair between-sole), the two combined making 39 per cent, and on that theory it was returned and classified as wool chief value. We presume this was done on the supposition or claim that a manufacture of cattle hair would be taxable, by similitude, under the provision for manufactures of wool.

It is true that certain particular manufactured forms of cattle hair have been held taxable under the wool schedule by reason of some striking similarity of the use of the particular article to the same article when made of wool, as in the case of *Pittsburgh Plate Glass Co. v. United States* (2 Ct. Cust. Apps., 389; T.D. 32162), where an article made of cattle hair, used for polishing glass, and as a substitute for a wool polisher, was so classified. But this came about solely on account of the similarity of *use*. Cattle hair is radically different from wool in *material*, quality, and texture.

The rule for determining the material of chief value is fixed by paragraph 386 and provides that it "shall be held to mean that component material which shall exceed in value any other *single* component material of the article."

It is plain, therefore, that the cattle-hair portion of the insole cannot be treated as wool, by construction, and added to the value of the wool of the upper to make wool chief value, as was done by the collector.

With each single component separated, namely, leather, wool, cattle hair, etc., leather is the most valuable single component, and the protest must therefore be sustained.

(T.D. 36587—G.A. 7944.)

Cattle-hair felt.

A certain felted fabric in chief value of cattle hair, imported in rolls and used for under-carpeting, is properly dutiable under the provision in paragraph 288, tariff act of 1913, covering "cloths if made in chief value of cattle hair, . . . 25 per centum ad valorem," and not under another provision of said paragraph covering "felts not woven, . . . wholly or in chief value of wool, . . . 35 per centum ad valorem."

United States General Appraisers, New York, July 21, 1916.

In the matter of protest 783742 of F. B. Vandegrift & Co. against the assessment of duty by the collector of customs at the port of Philadelphia.

[Reversed.]

Comstock & Washburn (J. Stuart Tompkins of counsel) for the importers.

Bert Hanson, Assistant Attorney General (*Thomas J. Doherty*, special attorney), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers; SULLIVAN, G.A., not participating).

BROWN, General Appraiser: This suit is brought to determine the proper classification of certain merchandise invoiced as "grey under-felt."

It was classified under paragraph 288, act of 1913, as—

Felts, not woven, . . . wholly or in chief value of wool, . . . 35 per centum ad valorem.

It is claimed to be dutiable under paragraph 302, reading :

Carpets and carpeting of wool or cotton, or composed in part of either of them, . . . 20 per centum ad valorem.

Or under paragraph 288, as —

Cloths if made in chief value of cattle hair or horse hair, not specially provided for in this section, 25 per centum ad valorem.

The testimony shows that this merchandise is imported in long rolls, 1½ yards wide, in pieces of about 70 yards to a roll. It is used for under-carpeting; that is, to place under carpets or rugs. It is admitted that it is in chief value of cattle hair, and there is no evidence in the record as to what the remainder of it consists. The official papers show that the theory of classification is as a wool felt, by similitude.

Under the act of 1909 certain wool felts used for polishing glass, composed of cattle hair, were held, by similitude of use alone, to be classified as wool felts. *Pittsburgh Plate Glass Co. v. United States* (2 Ct. Cust. Appls., 389; T.D. 32162). There was no testimony in that case to show any similitude in quality, texture, or material, and it is a matter of common knowledge that in quality, texture, and material cattle hair is essentially different from wool. There is no proof in the case at bar of any similar use of the merchandise to a particular wool felt.

In the act of 1913 Congress added a provision for cattle-hair cloth, inserting it at a lower and different rate of duty, in the same paragraph which covers felts not woven and cloths wholly or in chief value of wool, plainly intending to separately classify cattle-hair goods, so far as the word "cloth" would accomplish that purpose.

There is no legally sufficient evidence of commercial nomenclature in this record, and therefore classification must be made on the common meaning of the terms used. If, then, the article in controversy can fairly and reasonably be denominated as cloth of cattle hair under the common meaning of the term cloth, it is to be so classified.

The Century Dictionary, after describing "felt" and "cloth," adds a further term, namely, "felt cloth," which it describes as "cloth made of wool matted together without weaving." And the Standard Dictionary defines a cloth as —

A fabric woven, felted, or knit of cotton, wool, silk, flax, hair, jute, hemp, or ramie, adapted to be made up into garments or for other use.

It is further a matter of common knowledge that billiard-table covers, so-called silent cloth, used to put under table covers to prevent the noise of the dishes and to protect against their heat, soft felt hats, desk covers, and similar articles are made from fabrics which would properly be described as felt cloths.

It would seem, therefore, that the merchandise in dispute coming as

it does in rolls as cloth is handled, and to be cut into shape for use under carpets, would also come under the term cloth, as above defined and explained. And it would seem reasonable to suppose that Congress in adding the term "cloth made of cattle hair" in the act of 1913 intended to use the term "cloth" in its broadest sense as defined in the dictionaries, for otherwise different rates of duty would apply to various cattle-hair fabrics when there would be no apparent reason for such differentiation, and if there was it would have resulted in the insertion of several different cattle-hair provisions.

This being the case, we hold that the merchandise here in question is included within the term "cloth of cattle hair" and the alternative claim in the protest to that end is sustained.

So far as the first claim in the protest as carpet or carpeting made in whole or in part of wool is concerned, and assuming for that purpose that the minor portion of this merchandise consists of wool (although the record is not clear in that regard), and assuming also that it is properly designated as carpeting, still that claim would not apply because the provision for "cloth made of cattle hair" is more specific, both as to the material of chief value, cattle hair, and as to the form in which it appears, cloth.

Judgment is therefore rendered in favor of the importers' alternative claim under paragraph 288 at 25 per cent ad valorem, and the protest to that end sustained.

(T.D. 36613 — G.A. 7952.)

Lanolin — Adeps lanæ.

In adding the provision for "lanolin" in the tariff act of 1913, it must be concluded, in the absence of testimony defining the term in the trade and considering only the common meaning of the word, that Congress intended to differentiate between *adeps lanæ* and lanolin, and to leave *adeps lanæ anhydrous* to be classified as a wool grease, refined, at one half of 1 cent per pound, and to tax lanolin at 1 cent per pound under paragraph 44 of said act.

United States General Appraisers, New York, August 4, 1916.

In the matter of protests 763215, etc., of Merck & Co. et al., against the assessment of duty by the collector of customs at the port of New York.

[Modified.]

Strauss & Hedges for the importers.

Bert Hanson, Assistant Attorney General (*Charles D. Lawrence*, special attorney), for the United States.

Before Board 1 (McCLELLAND, SULLIVAN, and BROWN, General Appraisers; SULLIVAN, G.A., not participating).

BROWN, General Appraiser: Paragraph 44 of the tariff act of 1913 reads in part as follows:

Wool grease, including that known commercially as degras or brown wool grease, crude and not refined or improved in value or condition, one-fourth cent per pound; refined or improved in value or condition, and not specially provided for in this section, one-half cent per pound; lanolin, 1 cent per pound.

This suit is brought to determine whether certain so-called *adeps lanæ anhydrous* is properly dutiable as "lanolin" under the last clause above quoted, as classified by the collector, or as "wool grease, refined or improved in value or condition," under the second clause.

It is true that the protests cover two products, one *adeps lanæ anhydrous*, and the other *adeps lanæ cum aqua*. The importers claim that the latter is the "lanolin" designated in this paragraph and the former is not. The Government claims, on the other hand, that both the anhydrous and hydrous varieties are lanolin and properly classified under that name.

Both *adeps lanæ anhydrous* and *adeps lanæ cum aqua* are manufactured from wool grease. Wool grease, obtained by extracting raw wool with volatile solvents, contains only the natural constituents, viz., free fatty acids, neutral esters, and free alcohols, in admixture with potassium salts of fatty acids. The constituents vary within certain limits as is usual with natural products, according to the locality from which the sheep come, Brazil, Australia, South America, or Russia.

The provision in the act of 1897 reads:

279. . . . Wool grease, including that known commercially as degras or brown wool grease, one-half of 1 cent per pound.

In the act of 1909 the provision was enacted to read as follows:

290. . . . Wool grease, including that known commercially as degras or brown wool grease, crude and not refined, or improved in value or condition, one-fourth of 1 cent per pound; refined, or improved in value or condition, and not specially provided for in this section, one-half of 1 cent per pound.

Under the latter act, in the case of *Koechl & Co. v. United States* (3 Ct. Cust. Apps., 316; T.D. 32619) the court held that *adeps lanæ*, both hydrous and anhydrous, was not medicinal in its qualities, and secondly, even if it had been, the provision for refined wool grease was more specific than that for medicinal preparations, and consequently they should be classified as refined wool grease. In that case the court used the following descriptive language:

The merchandise involved in the controversy is known to the Pharmacopeia and the Dispensatory as *adeps lanæ*, which is the scientific designation and Latin equivalent for "wool grease." Hydrous *adeps lanæ* is that which carries water in suspension, and anhydrous that from which all water has been expelled. Wool grease is the fatty substance which results from the washing of the wool. This fatty substance, just as it comes from the wool, contains some free potash and is mixed with

dirt, water, and other foreign matter derived from the substances employed as cleansing materials. The mixture is drawn off into tanks and when relieved of the dirt, excess water, and alkalies derived from the agencies used in washing the wool, it becomes degras or raw wool grease which normally contains some fatty acids and free potash. . . .

When degras, or raw wool grease, has been freed of the uncombined alkalies and fatty acids normally found in it, it is denominated "neutral wool grease." Neutral wool grease is used for making soap, the manufacture of paints, and the compounding of cylinder and machinery oils of the finer quality. If the cleansing and refining of the degras, or crude wool grease, proceeds so far as to leave no perceptible odor of wool and absolutely no uncombined alkalies or fatty acids, the product takes on the scientific name of *adeps lanæ*, or is given by the manufacturers some fanciful proprietary designation, such as *lanæ*, *lanam*, or *lanolin*. *Adeps lanæ*, *lanam*, *lanæ*, or *lanolin* is used by the pharmacist as a basis for ointments and as a carrier for soluble medicinal salts. When applied to the skin it renders the tissues soft and pliable and serves the purpose of an emollient.

The court further says, on page 318:

Lanolin was originally a preparation patented in the United States by Dr. Otto Braun and Dr. Oscar Lieberich, of Berlin, Germany. This preparation was described by the patentees in the specifications of their letters patent as "a new manufacture of fatty matter from wool fat, . . . and as a compound of clean wool fat with water."

It is to be noted in this case that there was no question of distinction between *adeps lanæ anhydrous* and *adeps lanæ cum aqua*, the sole question being whether they were both to be classified as medicinal preparations or as refined wool grease.

The court further says (p. 318), after discussing some of the earlier decisions:

In the cases subsequently decided, the importers seemingly raised no issue as to the therapeutic qualities of the merchandise, but endeavored to secure the admission of it as wool grease, or as rendered oil, or as something other than lanolin and bearing a different name. This the board and the courts would not permit and just as often as the issue was presented it was held that wool grease, freed of dirt, water, alkalies, and fatty acids, was lanolin, and therefore subject to the rule laid down in *Movius & Son v. United States* (66 Fed., 734).

In the *Movius* case the court had held it to be a medicinal proprietary preparation under the act of 1890.

It is to be noted that in these cases thus discussed by the court *adeps lanæ anhydrous* was held to be like lanolin in that it was not medicinal, but in the case at bar we must determine whether it is lanolin or another form of wool grease refined.

The standard authority on this class of subjects is Dr. J. Lewkowitsch, consulting and analytical chemist to the City and Guilds of London Institute. In his work on the "Chemical Technology and Analysis of Oils, Fats, and Waxes" (1914), after describing wool fat (which he designates under various titles, "Wool grease," "Recovered grease,"

“Brown grease”), as the natural grease contained in sheep’s wool, which is obtained in the course of preparing the raw material for spinning, and is removed by means of dilute soap (or sodium carbonate) solutions, or by extraction with volatile solvents, he says:

Since the valuable property of wool fat, viz., that of yielding emulsions with water which are easily absorbed by the skin, has been rediscovered, the raw wool fat is purified by various (patented) processes, and the refined neutral wool fat—*wool wax*—is brought into commerce either in an anhydrous state (under such names as “*adeps lanæ*”), or in the hydrated state (under the name “*lanolin*”).

Anhydrous wool wax is a pale yellow, translucent substance, having a slight but not unpleasant smell (in contradistinction to raw wool grease, which is characterized by its peculiar disagreeable smell, recalling that of sheep). Its consistence is that of a thin ointment. It dissolves readily in chloroform, ether, and ethyl acetate. Although insoluble in water, it possesses the remarkable property of absorbing larger quantities of water than any other wax; even if as much as 80 parts of water be mixed with 100 parts of wax, the emulsion which is formed with water has the appearance of a perfectly homogeneous mass. A mixture of neutral wax and water, containing about 22-25 per cent of the latter, is sold in commerce under the name “*lanolin*.”

In Volume III., page 432, under the title, “Wool Fat, Wool Grease, Recovered Grease, Brown Grease,” after describing some of the processes of manufacture, he says:

The resulting wool wax was dark yellow, and as all attempts to bleach it led to unsatisfactory results, it was intermixed with about 20-25 per cent of water, in order to obtain a lighter-colored product. This was brought into commerce under the name “*lanolin*.” The anhydrous product is obtainable in commerce as *adeps lanæ*.

Then, after describing further processes and that of John Smith & Son, and Leach, he says (p. 436) about that particular process:

It will thus be seen that in this process the free fatty acids of the wool grease, as also the fatty acids introduced as soap in the scouring of the wool, are lost. The wool grease is worked up, in the manner described above, into “*lanolin*” or sold as “*adeps lanæ*.”

The author thus limits the word “*lanolin*” to the hydrous product, and describes *adeps lanæ* anhydrous and *lanolin* as two separate articles of commerce, although they differ simply in the fact that one contains a certain per cent of water and the other does not.

We have in this case no testimony concerning commercial designation and must assume for the purpose of this record therefore that it is the same as the common meaning.

The Encyclopaedia Britannica (1911), Volume XVI., page 183, describes *lanolin* as—

The commercial name of a preparation styled *adeps lanæ* hydrous in the British Pharmacopœia, and which consists of 7 ounces of neutral wool fat (*adeps lanæ*) mixed with 3 fluid ounces of water. . . . It is a translucent, inctuous substance which has the property of taking up large quantities of water. Owing to the ease with which it pene-

trates the skin, wool fat both in the anhydrous form and as lanolin, sometimes mixed with such substances as vaseline or fatty oils, is largely often employed as a basis for ointments.

The United States Dispensatory (edition of 1907) and the United States Pharmacopeia (1905), and "New and Non-official Remedies," published by the American Medical Association (1912), all distinguish lanolin from *adeps lanæ anhydrous*.

The dictionary definitions cited by the Government which simply define lanolin as being a compound of cholesterin and fatty matter derived from sheep's wool, without mentioning the intervening product, *adeps lanæ anhydrous*, do not make against or minimize the effect of their separate definition as two distinct substances in the authorities above quoted.

Further, it would seem from the careful and detailed description of the manufacture of *adeps lanæ* and lanolin in the books that these two substances cover all or nearly all forms of refined wool grease, so that there would be little, if anything, left to fall under the provision for refined wool grease if both *adeps lanæ anhydrous* and lanolin were classified under the latter name.

All of which tends to show that the Congress, in adding the term "lanolin" in the act of 1913, intended to leave the distinct and separate intermediate product, *adeps lanæ anhydrous*, to be classified, as before, as refined wool grease, and to tax the hydrous form only under the term "lanolin." At least, we must so hold in the absence of any testimony by commercial men engaged in buying and selling these substances, that they are bought and sold as one and the same thing.

The protests are therefore overruled as to the *adeps lanæ eum aqua* and sustained as to the *adeps lanæ anhydrous*, which should be classified as wool grease, refined, at one-half cent per pound under paragraph 44.

ABSTRACTS OF OTHER BOARD CASES.

No. 39969. — Protests 765737, etc., of Stone & Downer Co. (Boston).

SLASHER FLANNEL — WOOL CLOTH.

BROWN, General Appraiser: The issue raised by these protests is whether certain fabrics are dutiable as wool cloth under paragraph 288, act of 1913, at 35 per cent ad valorem, as classified, or whether they are dutiable as flannels under paragraph 289 at 25 per cent ad valorem, as claimed. Said paragraph 289 reads:

Blankets and flannels composed wholly or in chief value of wool, 25 per centum ad valorem; flannels composed wholly or in chief value of wool, valued at above 50 cents per pound, 30 per centum ad valorem.

The following facts appear from the testimony. The merchandise is described on the invoices as "flannel," "superfine flannel," and as

“roller flannel.” It is sold to cotton mills and is used on machinery in the mills, chiefly on sizing machines in what is called the *slashing* machine. The cloth is wound around two cylinders of the machine and the yarn passes between the cylinders, which remove the excess moisture and sizing from the yarn.

While the witnesses testified that it is known in the trade as *slasher flannel*, they admitted that the term generally used is “*slasher*,” with some word descriptive of the quality, as *superfine slasher*, *coarse slasher*, etc.

The importers waive claim on item described as No. 11 roller flannel, on invoice 1826, protest 769484.

The testimony is legally insufficient to establish a definite, uniform, and general commercial designation of the goods here in question as “*flannels*.”

From the record and an examination of the samples we are of the opinion that the fabrics in question are not “*flannels*” within the common and ordinary meaning of that term. We think that Congress in enacting the provision for *flannels* was dealing primarily with *flannels* for underwear and perhaps for certain other garments, and did not have in mind goods, even of a *flannel* texture, which have no relation to clothing, but which are solely used in connection with machinery.

In G.A. 7919 (T.D. 36486), covering protest 765909, decided June 9, 1916, we held that Congress in using the term “*blankets*” in this paragraph did not mean to include so-called *blankets* used in connection with machinery, but only *blankets* used for bodily protection—that is, to keep out the cold.

That decision is in harmony with the conclusion arrived at in this case.

The protests are therefore overruled as to said merchandise.

Protest 776910 also claims 5 per cent discount under section 4, paragraph J, sub-section 7, but no evidence was introduced in support of this claim, and it is also overruled.

No. 39970.—Protests 752037, etc., of Stone & Downer Co. (Boston).

CLEARER CLOTH—FLANNELS.—*Slasher flannel* and *clearer cloth* classified as *wool cloth* at 35 per cent ad valorem under paragraph 288, tariff act of 1913, are claimed dutiable as *flannels* at 25 per cent under paragraph 289.

Opinion by BROWN, G.A. The *slasher flannel* is used in cotton mills on *slasher* machines, and the *clearer cloth* on spinning machinery to catch the loose fibers and clear them away from the yarns during the spinning process. The fabrics in question were found not to come within the meaning of the term “*flannels*.” It was held that it is probable that Congress in enacting the *flannel* provision did not have in mind fabrics which, although of *flannel* texture, have no relation to

clothing, but are used entirely in connection with machinery. The classification as wool cloth under paragraph 288 was affirmed.

No. 39971. — Protest 797207 of Harris & Schulgasser (New York).

ALPACA COAT LININGS. — Alpaca coat linings classified as cloth in chief value of the hair of the alpaca at 40 per cent ad valorem under paragraph 308, tariff act of 1913, are claimed dutiable at 35 per cent under paragraph 288 or 290 as wool cloth or wool coat linings.

Opinion by BROWN, G.A. On the authority of G.A. 7741 (T.D. 35541), affirmed in Rosenberg *v.* United States (7 Ct. Cust. Appl., —; T.D. 36510), the protest was overruled.

No. 39972. — Protest 796184 of Sylvester & Levy (New York).

WOOL CLOTH. — Merchandise classified as cloth in chief value of wool at 35 per cent ad valorem under paragraph 288 is claimed to be cloth in chief value of cattle hair, dutiable at 25 per cent under the same paragraph.

Opinion by BROWN, G.A. Protest unsupported; overruled.

No. 39988. — Protest 769287 of Bullock's (Los Angeles).

WEARING APPAREL, BRAIDED. — Smoking jackets of wool with the sleeves and front edges trimmed or ornamented with silk braid, classified as wool wearing apparel, appliquéd, at 60 per cent ad valorem under paragraph 358, tariff act of 1913, are claimed dutiable as wool wearing apparel at 35 per cent under paragraph 291.

Opinion by HOWELL, G.A. The jackets in question were found not to be appliquéd. United States *v.* Hamburger (5 Ct. Cust. Appl., 217; T.D. 34382), affirming G.A. 7525 (T.D. 34087), and Loewenthal *v.* United States (6 Ct. Cust. Appl., 209; T.D. 35464), followed. On the authority of G.A. 7613 (T.D. 34823), affirmed in United States *v.* Snow's United States Sample Express Co. (6 Ct. Cust. Appl., 120; T.D. 35388), the articles in question were held dutiable as wool wearing apparel under paragraph 291, as claimed.

No. 40013. — Protest 745537 of Hirshbach & Smith (New York).

MOHAIR DRESS GOODS. — Dress goods classified as cloth in chief value of the hair of the Angora goat at 40 per cent ad valorem under paragraph 308, tariff act of 1913, is claimed dutiable as dress goods at 35 per cent under paragraph 290.

Opinion by BROWN, G.A. On the authority of Rosenberg *v.* United States (7 Ct. Cust. Appl., —; T.D. 36510) the dress goods in question was held properly classified under paragraph 308.

No. 40014. — Protest 776470 of Stern, Katzenstein & Stern (New York).

MOHAIR LININGS. — Linings or dress goods classified as mohair chief value at 40 per cent ad valorem under paragraph 308, tariff act of 1913, are claimed dutiable as coat linings or dress goods in chief value of wool at 35 per cent under paragraph 290.

Opinion by BROWN, G.A. The evidence submitted was held insufficient to establish the claim. Protest overruled. Rosenberg *v.* United States (7 Ct. Cust. Appl., —; T.D. 36510) cited.

No. 40030. — Protests 790040, etc., of E. McConnell & Co. (New York).

FLANNELS. — Merchandise classified as wool dress goods at 35 per cent ad valorem under paragraph 290, tariff act of 1913, is claimed dutiable as flannels at 25 or 30 per cent under paragraph 289.

Opinion by BROWN, G.A. The merchandise in question was held properly dutiable as flannels under paragraph 289. G.A. 7772 (T.D. 35703) followed.

No. 40031. — Protest 772008 of Katz, Fleisher & Co. (Boston).

MOHAIR COAT LININGS. — Mohair coat linings classified as cloth in chief value of the hair of the Angora goat at 40 per cent ad valorem under paragraph 308, tariff act of 1913, are claimed dutiable as coat linings in chief value of wool at 35 per cent under paragraph 290.

Opinion by BROWN, G.A. On the authority of Rosenberg *v.* United States (7 Ct. Cust. Appl., —; T.D. 36510) the coat linings in question were held properly classified under paragraph 308.

No. 40004. — Protest 770251 of Lines & Warne (New York).

FLANNELS. — Merchandise classified as wool cloth or wool dress goods at 35 per cent ad valorem under paragraph 288 or 290, tariff act of 1913, is claimed dutiable as flannels under paragraph 289.

Opinion by HOWELL, G.A. On the authority of G.A. 7772 (T.D. 35703), the flannels in question were held dutiable under paragraph 289.

No. 40052. — Protest 788249 of M. J. Corbett & Co. (New York).

CASHMERE OR WOOL SHAWLS. — Shawls classified as cashmere chief value, at 40 per cent ad valorem under paragraph 308, tariff act of 1913, are claimed to be wool chief value, dutiable at 35 per cent under paragraph 291.

Opinion by BROWN, G.A. The shawls were found to be in chief value of the wool of the sheep and held dutiable under paragraph 291, as claimed. Abstract 39673 cited.

COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL AND MANUFACTURES OF WOOL FOR THE TWELVE MONTHS ENDING JUNE 30, 1915 AND 1916.

GROSS IMPORTS.

ARTICLES AND COUNTRIES.	Quantities for Twelve Months ending June 30.		Values for Twelve Months ending June 30.	
	1915.	1916.	1915.	1916.
WOOL, HAIR OF THE CAMEL, GOAT, ALPACA, AND OTHER LIKE ANIMALS, AND MANUFACTURES OF :				
UNMANUFACTURED—				
Class 1—Clothing (free)				
Imported from—				
Belgium	3,002,967		\$949,233	
United Kingdom	38,897,503	30,188,711	10,169,008	\$9,352,194
Argentina	65,373,017	110,085,992	16,221,836	32,130,504
Uruguay	14,612,703	8,941,506	3,956,216	3,206,191
Australia	66,063,841	157,433,859	14,922,094	45,183,065
New Zealand	413,679	16,697,578	106,526	5,696,236
Other countries	33,653,710	79,773,939	5,683,596	16,577,467
Total	222,017,420	403,121,555	\$52,008,509	\$112,145,657
Class 2—Combing (free)				
Imported from—				
Turkey in Europe	58,543		\$13,052	
United Kingdom	8,607,638	4,135,963	2,244,572	\$1,487,238
Canada	5,094,660	4,930,170	1,225,169	1,523,620
South America	240,414	3,538,681	48,546	741,826
Other countries	1,053,439	687,346	203,819	164,004
Total	15,054,694	13,292,160	\$3,735,158	\$3,916,708
Class 3—Carpet (free)				
Imported from—				
Russian Empire	2,273,360	2,562,854	\$341,575	\$565,055
United Kingdom	10,233,744	25,969,190	1,898,082	6,072,137
Other Europe	2,638,227	3,784,336	472,661	809,859
Argentina	10,509,249	14,050,272	1,982,936	3,218,590
China	35,455,392	44,192,310	5,321,509	9,476,354
East Indies	859,121	3,025,191	158,701	749,318
Turkey in Asia	2,486,957	42,560	522,936	8,357
Other countries	1,253,702	15,022,286	164,075	3,052,566
Total	65,709,752	109,268,999	\$10,865,475	\$23,955,236
Hair of the Angora goat, etc. (dutiable)	5,301,563	9,145,278	\$1,633,426	\$2,403,133
Total wool	308,083,429	534,828,022	\$68,242,568	\$142,420,734
MANUFACTURES OF—				
Carpets and carpeting (dutiable)				
Imported from—				
Turkey in Europe	38,199	761	\$206,311	\$4,446
United Kingdom	614,129	378,943	1,062,504	1,099,227
Asia	330,501	323,087	1,320,278	1,071,108
Other countries	76,243	30,667	357,964	196,576
Total	1,059,072	733,458	\$2,947,057	\$2,371,357

COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL, ETC.

GROSS IMPORTS.—*Continued.*

ARTICLES AND COUNTRIES.	Quantities for Twelve Months ending June 30.		Values for Twelve Months ending June 30.	
	1915.	1916.	1915.	1916.
CLOTHS (dutiable)				
Imported from—	<i>Pounds.</i>	<i>Pounds.</i>		
Belgium	625,352	41,788	\$742,789	\$8,088
Germany	1,197,750	3,658	1,292,375	24,696
United Kingdom . . .	8,296,991	5,984,384	7,614,614	6,318,424
Other countries . . .	528,897	88,078	612,954	109,855
Total	{ lbs. 10,648,990 sq. yds. 17,139,292	{ 6,117,908 8,880,828	\$10,262,732	\$6,479,063
DRESS GOODS, WOMEN'S AND CHILDREN'S—				
Imported from—				
France	1,570,184	23,195	\$1,576,797	\$40,410
Germany	1,277,390	3,570	1,469,051	4,221
United Kingdom . . .	4,950,466	1,585,870	4,123,680	1,662,970
Other countries . . .	291,970	78,624	151,339	98,279
Total	{ lbs. 8,000,010 sq. yds. 29,542,723	{ 1,691,259 6,914,313	\$7,320,867	\$1,805,880
Press cloths for oil milling purposes (free)	· · · · ·	· · · · ·	\$79,091	\$50,311
Tops, pounds (dutiable)	483,183	· · · · ·	· · · · ·	251,812
Wearing apparel (dutiable)	· · · · ·	· · · · ·	1,800,391	1,127,536
Wool wastes (free)	· · · · ·	· · · · ·	834,864	1,207,517
Yarn, pounds (dutiable)	110,474	· · · · ·	· · · · ·	88,086
All other (dutiable)	· · · · ·	· · · · ·	4,302,694	602,952
Hair of the goat, etc., manufactures of (dut.)	· · · · ·	· · · · ·	2,243,660	1,673,029
Total manufactures	· · · · ·	· · · · ·	\$29,791,356	\$15,657,537

COMPARATIVE STATEMENT OF IMPORTS AND EXPORTS OF WOOL, ETC.—*Concluded.*

EXPORTS OF WOOL AND MANUFACTURES OF.

FOREIGN.

ARTICLES.	1915.	1916.	1915.	1916.
	Quantities.	Quantities.	Values.	Values.
WOOL, HAIR OF THE CAMEL, GOAT, ALPACA, AND OTHER LIKE ANIMALS, AND MANUFACTURES OF:				
UNMANUFACTURED—				
Wool of the sheep, hair of the goat, camel, and other like animals:				
Class 1—Clothing lbs.	5,607,692	1,762,233	\$1,604,228	\$608,930
Class 2—Combing "	121,450	7,700	33,534	3,980
Class 3—Carpets	1,517,503	287,452		
Hair of the Angora goat, alpaca, and other like animals (dutable), lbs.	13,289	33,637	2,795	9,748
Total unmanufactured	7,259,934	1,803,570	\$1,928,009	\$622,658
MANUFACTURES OF—				
Carpets and carpeting—				
Carpets and rugs woven whole, sq. yds.	6,397	7,498	\$58,497	\$28,554
All other, sq. yds.		560		1,418
Cloths:				
Lbs.	54,621	95,660		
Sq. yds.	135,018	211,064	45,600	123,645
Dress goods, women's and children's:				
Lbs.	337,600	119,935		
Sq. yds.	1,030,640	467,520	288,496	118,712
Press cloths of camel's hair, for oil milling purposes			38	8,277
Tops, lbs.		87,618		52,993
Wearing apparel			11,629	52,286
Wool waste			33,732	7,770
Yarn, lbs.		5,533		4,546
All other			181,623	65,880
Hair of Angora goat, alpaca, etc., manufactures of			32,603	13,937
Total manufactures of			\$652,218	\$476,518

DOMESTIC.

WOOL, AND MANUFACTURES OF:				
Wearing apparel:				
Exported to:				
France			\$5,235,029	\$1,034,468
Italy				8,529,351
Russia in Europe				3,207,092
United Kingdom			1,635,013	726,826
Canada			1,107,243	2,093,764
Mexico			350,385	222,942
Russia in Asia				2,613,207
Other countries			781,230	940,851
Total wearing apparel			\$9,108,900	\$19,368,501
Woolen rags	24,784,622	13,918,247	1,388,934	1,283,281
All other			16,829,617	33,331,873
Total			\$27,327,451	\$53,983,655

WOOL AND MANUFACTURES OF WOOL REMAINING IN BONDED
WAREHOUSE JUNE 30, 1915 AND 1916.

ARTICLES.	1915.	1916.	1915.	1916.
	Quantities.	Quantities.	Values.	Values.
WOOL, HAIR OF THE CAMEL, GOAT, ALPACA, AND OTHER LIKE ANIMALS, AND MANUFACTURES OF:				
UNMANUFACTURED—				
Hair of the Angora goat, alpaca, and other like animals, lbs.	1,482,954	1,278,501	\$436,281	\$426,664
MANUFACTURES OF—				
Carpets and rugs, woven whole, sq. yds.	73,507	17,439 7,454	\$450,195	\$118,943 8,637
Cloths:				
Lbs.	1,609,997	1,394,667	1,611,408	1,380,692
Sq. yds.	3,210,862	2,707,777		
Dress goods, women's and children's:				
Lbs.	1,487,993	748,561	1,067,704	455,347
Sq. yds.	5,626,874	2,493,661		
Tops, lbs.		14,894	251,537	11,791
Wearing apparel				273,744
Yarn, lbs.		274	590,803	237
All other				477,142
Hair of the Angora goat, alpaca, etc.			364,551	76,228
Total manufactures of			\$4,336,258	\$2,802,761

QUARTERLY REPORT OF THE BOSTON WOOL MARKET FOR JULY, AUGUST, SEPTEMBER, 1916, AND SEPTEMBER, 1915.

DOMESTIC WOOLS. (F. NATHANIEL PERKINS.)

	1916.			1915.
	July.	August.	September.	September.
OHIO, PENNSYLVANIA, AND WEST VIRGINIA.				
(WASHED.)				
XX and above	35	35 @ 36	36 @ 37	31 @ 32
X	32	32 @ 33	33 @ 34	28 @ 29
Blood	40	41 @ 42	42 @ 43	38 @ 39
"	42	42 @ 44	43 @ 45	40 @ 41
"	42	42 @ 44	43 @ 45	40 @ 41
Fine Delaine	38 @ 39	39 @ 40	39 @ 40	34 @ 35
(UNWASHED.)				
Fine	30 @ 31	30 @ 31	30 @ 31	26 @ 27
Blood	37 @ 38	39	39 @ 40	35 @ 36
"	41	42	42	36 @ 37
"	40	41	40 @ 41	36 @ 37
Fine Delaine	34 @ 35	35	36	30 @ 31
MICHIGAN, WISCONSIN, NEW YORK, ETC.				
(UNWASHED.)				
Fine	27 @ 28	27 @ 28	27 @ 28	24 @ 25
Blood	35 @ 36	36 @ 37	36 @ 37	33 @ 34
"	40	41 @ 42	41 @ 42	35 @ 36
"	39 @ 40	40 @ 41	40 @ 41	35 @ 36
Fine Delaine	31 @ 32	33 @ 35	35½ @ 36	27 @ 28
KENTUCKY AND INDIANA.				
(UNWASHED.)				
Blood	42 @ 43	44 @ 45	44 @ 45	39 @ 40
"	41 @ 42	44	44	39 @ 40
Braid	35 @ 36	36 @ 37	36 @ 37	33 @ 34
MISSOURI, IOWA, AND ILLINOIS.				
(UNWASHED.)				
Blood	39 @ 40	40	40	35 @ 36
"	38 @ 39	39 @ 40	39 @ 40	35 @ 36
Braid	33 @ 34	36 @ 37	36 @ 37	31 @ 32
TEXAS.				
(SCOURED BASIS.)				
12 months, fine, and fine medium . . .	78 @ 80	80 @ 82	82 @ 85	68 @ 70
Spring, fine and fine medium	70 @ 75	70 @ 75	70 @ 75	60 @ 62
Fall, fine and fine medium	60 @ 65	60 @ 65	60 @ 65	55 @ 57
CALIFORNIA.				
(SCOURED BASIS.)				
12 month, fine	78 @ 80	80 @ 82	82 @ 85	65 @ 67
Spring, fine	67 @ 72	70 @ 72	70 @ 72	58 @ 60
Fall, fine	57 @ 63	57 @ 63	57 @ 63	54 @ 56
TERRITORY WOOL: Montana, Wyoming, Utah, Idaho, Oregon, etc.				
(SCOURED BASIS.)				
Staple, fine and fine medium	82	85	88 @ 90	70 @ 72
Clothing, fine and fine medium	76	78	80	67 @ 68
Blood	78	80	82	68 @ 69
"	72	74	78	66 @ 67
"	68	70	72	62 @ 64
NEW MEXICO.				
(SCOURED BASIS.)				
No. 1	73	74	78	64 @ 66
No. 2	65	66	70	58 @ 60
No. 3	58	59	60	53 @ 55
GEORGIA AND SOUTHERN.				
Unwashed	35 @ 36	36 @ 37	37 @ 38	33 @ 34

GEORGE W. BENEDICT.

Owing to a severe accident, Mr. George W. Benedict, who for many years has prepared for the Bulletin the quarterly report on domestic wools, is unable to make the report for this number and Mr. F. Nathaniel Perkins has kindly undertaken the work for the present. Mr. Benedict has the heartfelt sympathy of his many friends in the trade and it is hoped that he may soon be able to resume his usual activities.*

BOSTON, Sept. 30. 1916.

DOMESTIC WOOL.

The news from abroad the latter part of May of the re-imposition of the embargo on all wool shipments from Australia to all destinations, resulted in an immediate advance in wool values, holders putting up their prices from 2 to 5 cents a scoured pound, and July opened with a strong tone throughout the market.

In the West buying continued steadily at very strong prices, as high as 34 cents being obtained in Montana for choice medium clips running largely to $\frac{3}{4}$ grade.

Woolen mills during the early part of July were much more in evidence as buyers than the worsted mills. Much sampling of the new clip was done as fast as the new wools were in shape to offer.

There was much congestion at this period in the warehouses and the question of storage for the new wools assumed an acute condition.

August opened with an extremely quiet tone as far as consummation of business was concerned; many manufacturers were away during the vacation period and the dealers experienced a quiet trade. It is worthy of note that notwithstanding the quietness of the market, prices showed no weakness whatever.

September opened with no marked evidence of manufacturers being in the buying mood, yet prices were fully maintained. The vacation period in Lawrence caused much of that district's machinery to be idle for some weeks, and the strike trouble in New York tended to augment the quiet tone both in the goods and raw material markets.

The latter part of September developed a much broader interest in wool, mill buyers being much in evidence, looking for weak spots but not finding them, purchasing was started in large volume by many of the largest mills, they evidently believing it wise to delay no longer.

In consequence, the last two weeks of September showed very heavy sales, estimated at above fifteen million pounds, principally wools of a staple character, many of the sales being in the original bags.

F. NATHANIEL PERKINS.

* The accident resulted in the death of Mr. Benedict on October 27. A suitable notice of him will appear in the January Bulletin.

PULLED WOOLS. (W. A. BLANCHARD.)

	1916.			1915.
	July.	August.	September.	September.
Extra, and Fine A	73 @ 80	74 @ 80	75 @ 80	65 @ 70
A Super	68 @ 72	68 @ 72	70 @ 73	60 @ 65
B Super	65 @ 70	66 @ 70	67 @ 70	58 @ 62
C Super	52 @ 58	52 @ 58	53 @ 58	48 @ 50
Fine Combing	75 @ 80	75 @ 80	75 @ 80	63 @ 67
Medium Combing	70 @ 73	70 @ 73	70 @ 73	57 @ 60
Low Combing	63 @ 67	63 @ 67	63 @ 67	52 @ 55

PULLED WOOLS.

The market in pulled wools has been confined to current production which has meant a narrow range of grades. Long stapled and fine wools were closely sold up during the previous quarter and lambs supers have comprised the bulk of the offerings for the present quarter. Owing to the extreme prices for pelts, pullers were forced to ask more for their wools than buyers were willing to pay, and transactions through July and August were limited. In September some concessions were made, which coupled with a better demand for medium wools, resulted in more active business.

No wools of worsted length were pulled and the demand from the woollen mills has run more to fine than to medium and coarse grades.

W. A. BLANCHARD.

FOREIGN WOOLS. (MAUGER & AVERY.)

	1916.			1915.
	July.	August.	September.	September.
Australian Combing:				
Choice	44 @ 46	45 @ 48	45 @ 48	36 @ 37
Good	42 @ 44	43 @ 45	43 @ 45	34 @ 36
Average	39 @ 40	39 @ 40	39 @ 40	33 @ 34
Australian Clothing:				
Choice	40 @ 43	*	*	32 @ 35
Good	38 @ 39	40 @ 42	41 @ 43	31 @ 33
Average	36 @ 38	36 @ 38	36 @ 38	30 @ 32
Sydney and Queensland:				
Good Clothing	40 @ 42	41 @ 43	41 @ 43	33 @ 35
Good Combing	43 @ 46	43 @ 46	43 @ 46	35 @ 37
Australian Crossbred:				
Choice	*	*	*	
Average	*	*	*	
Australian Lambs:				
Choice	36 @ 38	38 @ 40	40 @ 42	32 @ 34
Good	34 @ 36	36 @ 38	36 @ 38	31 @ 32
Good Defective	32 @ 34	32 @ 34	33 @ 35	30 @ 31
Cape of Good Hope:				
Choice	34 @ 35	34 @ 35	34 @ 35	30 @ 31
Average	25 @ 28	25 @ 28	25 @ 28	22 @ 24
Montevideo:				
Choice	41 @ 43	42 @ 45	45 @ 49	34 @ 36
Average	39 @ 40	40 @ 43	40 @ 43	39 @ 33
Crossbred, Choice	44 @ 46	45 @ 47	*	39 @ 41
English Wools:				
Sussex Fleece	*	*	*	48 @ 49
Shropshire Hogs	*	*	*	46 @ 48
Yorkshire Hogs	*	*	*	40 @ 42
Irish Selected Fleece	*	*	*	40 @ 43
Carpet Wools:				
Scotch Highland, White	*	*	*	24 @ 25
East India, 1st White Joria	46	*	*	39 @ 41
East India, White Kandahar	42 @ 43	*	*	30 @ 33
Donskoi, Washed, White	*	*	*	
Aleppo, White	*	*	*	40 @ 44
China Ball, White	33 @ 38	35 @ 40	35 @ 40	33 @ 35
" " No. 1, Open	34 @ 38	34 @ 38	34 @ 38	30 @ 32
" " No. 2, Open	28 @ 31	28 @ 32	28 @ 32	25 @ 27

* Out of market.

BOSTON, Oct. 14, 1916.

FOREIGN WOOLS.

A steady demand for foreign wools has been a feature of the wool market during the past three months. The embargoes against shipment of Australasian wools, English fleeces and India wools, have prevented any increase in the supplies here. The standard of the Australian wools in stock has been steadily lowered, and while the grease price has not advanced materially, the scoured cost has been considerably increased, and the assortment left for sale in the market is much poorer than usual.

Cape wools have sold moderately. Good staple parcels are scarce, but the supply of short and inferior wool is at present in excess of the demand.

South America crossbred wool has been cleared and contracts at advancing prices are being freely sent to Buenos Aires and Montevideo. Inferior wools, — skirtings, second shearings, etc., — are in excess of the demand.

Carpet wools are in light supply. China wools are high in price. Cordova wools appear to be held above manufacturers' limits, and such wools as arrive from Europe and the Mediterranean meet with ready sale.

INDEX.

INDEX TO VOLUME XLVI.

A.

	<i>Page</i>
A case of very sudden conversion, tariff for revenue "only" conspicuously missing from the Democratic platform this year	231
Active and idle machinery, December 1, 1915	78
March 1, 1916	146
June 1, 1916	226
September 1, 1916	348
Adée, Hon. Alvey A., on the dyestuff embargo	72
Alpaca coat linings, duty on (Abstract 39971)	411
American after the war prospects	235
American Chemical Society, resolutions of, respecting the dyestuff tariff law of 1916	343
American Chemical Society, statement of president of the, respecting the Kitchin dyestuff bill	213
American cloths for American armies	88
American linen industry, an. report to the Bureau of Commerce, by W. A. Graham Clark, Commercial Agent	384
Russia leads in flax growing	381
Flax manufacture in the United Kingdom	385
The Irish flax industry	386
The American flax manufacture	387
American linen manufacture, the	387
American views of German trade, extracts from reports of American consuls	275
American wool industry, the commercial problems involved in the woolen and worsted branches, by Professor Paul T. Cherington	215
American wool manufacture and the national elections	375
Analysis of warp faults, illustration and explanation of certain faults in warp yarns, by Howard Priestman	121
A new textile journal, "Textiles," by Samuel S. Dale	179
Angora goat skins, duty on (T.D. 36466 — Abstract 39524)	283, 285
Annual Wool Review for 1915, by William J. Battison	1
Review of the year	1
The number of sheep and fleeces	4
The United States wool product of 1915	6
Value of the clip	8
Average weight and shrinkage	8

	Page
Fleece and pulled wool, 1891-1915 (table)	9
Scoured wool, fleece and pulled, 1891-1915	10
Value of the wool product, 1906-1915	10
Available supplies, 1910-1915	11
The annual wool supply (with table)	12
Mohair production in the United States	14
Stock of wool in the Boston market, January 1, 1915 and 1916 . .	14
Slaughter and movement of sheep (with tables)	15
The course of prices (with chart)	16
Comparative prices of domestic wool, 1901-1915	17
Boston receipts and shipments of wool (with tables)	18
Statistical tables, imports of wool into Boston, New York and Philadelphia	21
Imports of wool manufactures, 1910-1915 (with tables)	29
Imports of wool and manufactures of, entered for consumption (with tables)	32, 98
The English market	33
Text of the wool embargo	34
London sales	34
Liverpool sales	40
River Plate wools, exports of, production of, 1905-1915 (with tables)	46
Wool business of Australia, "Dalgety's Review" quoted	49
Number of sheep in Australia, 1910-1914	56
Australasian exports and sales	57
Average weight of Australian fleeces, 1901-1915	58
Value of the Australasian wool product, 1891-1914	59
South African wool production and sheep	60
Number of sheep in the world (table)	61
Wool production of the world	65
A reminiscence of 1912, how foreign "gratitude" helped to make possible the present tariff for revenue only	162
Argentine wools, imports of, into the United States, 1905-1915	48
Astrakhan — pile fabrics — duty on (Abstracts 39914, 39922)	292, 293
Australasian sheep, number of, 1910-1914	56
Australasian wool exports and sales	56
Australia, the year in (1915), "Dalgety's Review" quoted	49
Axminster carpet — rns — duty on (Abstract 39886)	291
Axminster carpeting, duty on (Abstract 39562)	286
Axminster chenille carpeting, duty on (T.D. 36216)	187
B.	
Battison, William J., Annual Wool Review for 1915	1
Beaumont, Roberts, on Germany after the war	251
Benedict, George W., death of	418

	Page
Benedict, George W., quarterly report of the Boston wool market on domestic wools	95, 203, 294
Blanchard, William A., quarterly report of the Boston wool market on pulled wools	96, 204, 295, 419
Bockings—wool cloth—green baize, duty on (Abstract 39843)	290
Book Review :	
“A Handbook of Weaves,” by G. H. Oelsner	180
Boston receipts and shipments of wool (tables)	18, 19, 20
British method of selling, the new	249

C.

Capital invested in United States manufactures	353
Carpets and rugs, United States census of the manufacture of, for 1914	257
Summary statements	371
Cashmere goat hair, duty on (Abstract 39673)	287
Cashmere noils—wool waste—duty on (Abstracts 38806, 39353) .	192, 197
Cashmere or wool shawls, duty on (Abstract 40052)	412
Cattle hair felt, duty on (T.D. 36587—G.A. 7944)	403
Chadwick, Day, obituary	374
Changed methods of British selling by Yorkshire and Scottish manu- facturers	177
Cherington, Professor Paul T., the American wool industry	215
Clark, Dr. Victor S., a “History of Manufactures”	316
Cloths and yarns, prices of	148
Comparative statement of imports and exports of wool and manufac- tures of wool for the twelve months ending December 31, 1914 and 1915	199
For the twelve months ending June 30, 1915 and 1916	413

D.

Dale, Samuel S., editor of “Textiles”	179
Dannerth, Frederic, dyes and the manufacturer	237
Decisions of the Treasury Department on the woolen tariff .	182, 279, 392
Drawback on worsted cloth (T.D. 35774)	182
Waterproof raincoats, component material of chief value (T.D. 36175—G.A. 7860)	183
Flax card cloth—double fabric (T.D. 36193—G.A. 7865)	184
Axminster chenille carpeting (T.D. 36216—G.A. 7868)	187
Wilton and tapestry Brussels rugs (T.D. 36229—G.A. 7874) . .	188
Abstracts of other board cases	189, 285, 409
Lanolin (Abstracts 38552, 38679)	189, 191
Mohair dress goods (Abstracts 38578, 40013)	190, 411
Mohair pile fabrics (Abstracts 38580, 39121)	190, 196

	Page
Wool cloth (Abstracts 38585, 38808, 39521, 39972)	191, 193, 285, 411
Wool wearing apparel — trimmings (Abstract 38615)	191
Wearing apparel in part of braid (Abstract 38636)	191
Mohair noils — wool waste (Abstract 38691)	192
Wearing apparel in part of braid and ornaments (Abstracts 38718, 38912, 39584)	192, 194, 286
Flannels (Abstracts 38781, 38782, 38921, 39134, 39135, 39156, 39304, 39393, 39563, 39700, 39707, 39844, 39918, 40030, 40004),	192, 194, 196, 197, 198, 286, 288, 289, 291, 292, 412
Cashmere noils — wool waste (Abstracts 38806, 39353)	192, 197
Wool wearing apparel (Abstract 38807)	193
Mohair fancy — wool cloth (Abstract 38846)	193
Mohair backings — waste (Abstract 38863)	193
Hoods — wool wearing apparel (Abstract 38922)	194
Woolen coats — embroidered wearing apparel (Abstract 38927)	194
Wearing apparel in part of trimmings (Abstract 38951)	195
Wearing apparel in part of braid (Abstract 38985)	195
Wool dress goods (Abstract 39120)	195
Dress goods, cotton and wool (Abstract 39179)	197
Wool grease (Abstract 39278)	197
Wool slippers (Abstract 39284)	197
Slippers of cotton and wool (Abstract 39380)	198
Teazled cloth not pile fabrics (T.D. 36403 — G.A. 7906)	279
Pile fabrics, appliqued (T.D. 36420 — G.A. 7909)	281
Angora goat skins (T.D. 36466) (Abstract 39534)	283, 285
Machine blankets (T.D. 36486 — G.A. 7919) (Abstract 39920),	283, 293
Wool oleine — oils (Abstract 39479)	285
Rugs — samples (Abstract 39535)	285
Wool wearing apparel — appliqued articles (Abstract 39555)	286
Axminster carpeting (Abstract 39562)	286
Tucked shirt bosoms — wool wearing apparel (Abstract 39585)	287
Wool laces — automobile laces (Abstract 39671)	287
Cashmere goat hair (Abstract 39673)	287
Cashmere yarn (Abstract 39705)	288
Woven fabrics, wool chief value (Abstract 39759)	289
Dress goods of silk or wool (Abstract 39780)	289
Slippers (Abstract 39797)	289
Wearing apparel in part of ornaments (Abstract 39810)	290
Wearing apparel in part of netting or tuckings (Abstract 39841),	290
Bockings — wool cloth — green baize (Abstract 39843)	290
Axminster carpet — rugs (Abstract 39886)	291
Imitation astrakhan — pile fabrics (Abstract 39888)	291
Astrakhan — pile fabrics (Abstracts 39914, 39922)	292, 293
Teazle cloth — pile fabrics (Abstract 39921)	293
Mohair coat linings (T.D. 36510), United States Court of Customs Appeals	392
Slippers, component material (T.D. 36582 — G.A. 7939)	402

	Page
Cattle hair felt (T.D. 36587 — G.A. 7944)	403
Lanolin, adeps lanæ (T.D. 36613 — G.A. 7952)	405
Slasher flannel — wool cloth (Abstract 39969)	409
Clearer cloth — flannels (Abstract 39970)	410
Alpaca coat linings (Abstract 39971)	411
Wearing apparel, braided (Abstract 39988)	411
Mohair linings (Abstract 40014)	412
Mohair coat linings (Abstract 40031)	412
Cashmere or wool shawls (Abstract 40052)	412
Doak, James, Jr., obituary	154
Drawback on worsted cloth (T.D. 35774)	182
Dress goods, cotton and wool, duty on (Abstract 39170)	197
Dress goods of silk or wool, duty on (Abstract 39780)	289
Dyes and the manufacturer, attitude of the textile mills toward Ameri- can and European colors, by Frederic Dannerth	237
Dyestuff art, Dr. Hesse on the	240
Dyestuff bill, the Hill	69
Dyestuff law, the new, by Winthrop L. Marvin	339
Text of the law	339
Resolutions of the American Chemical Society	343
Hon. E. J. Hill's bill referred to	344
How the British government proposes to meet the import of Ger- man dyes	346
Dyestuff problem still acute, the, no relief from Europe in sight, by Winthrop L. Marvin	67
The Hill dyestuff bill	69
The Jamaica logwood embargo	70
The hearing on the Hill bill	74
Dyestuff situation, the, a lame protectionist bill introduced in place of the Hill bill, by Winthrop L. Marvin	207
Text of the Kitchin proposal	209
Report of the Democratic majority of the Committee on Ways and Means	211
Statement of President Herty of the American Chemical Society .	213
Dyestuffs and self-reliance, the Hill bill points the right way out in Washington	82

E.

Editorial and industrial miscellany	82, 156, 231, 375
Embargo, the Jamaica logwood	70
Embargo, what of the?	377
England forbids the sale of native wools	251
England, wool consumption in, 1898-1915	170
English market, the	33
English selling methods	177

	Page
Exports of wool and manufactures of, twelve months ending December 31, 1914 and 1915	201, 415
Export trade, the early	331

F.

Felt goods, United States census of 1915, summary statements	363
Flannels, duty on (Abstracts 38781, 38782, 38921, 39134, 39135, 39156, 39304, 39393, 39563, 39700, 39707, 39844, 39918, 40004, 40030),	
194, 196, 197, 198, 286, 288, 289, 291, 292, 412	
Flax card cloth — double fabric — duty on (T.D. 36193)	184
Flax growing in Russia	384
Foreign interference in tariff revision	162
France, Dr. E. W., the Philadelphia Textile School	299
France, the textile industries of, in 1916, extracts from report of Consul A. M. Thackara	271

G.

German trade, American views of, extracts from reports of American consuls	275
Germany after the war, Roberts Beaumont in "Textile Recorder" quoted	251

II.

Hats, fur-felt, United States census of 1915, summary statements	369
Hats, wool-felt, United States census of 1915, summary statements	367
Hesse, Dr., on the dyestuff art	240
Discussion of the dyestuff question before the Dress Fabric Buyers' Association	240
Hill bill, the hearing on the (1916)	74
Hill dyestuff bill, the text of	69
Hill, Hon. E. J., dyestuff bill referred to	344
"History of Manufactures," a, review of Dr. Victor S. Clark's work, by Winthrop L. Marvin	316
How Britain repressed the colonies	318
Stimulus of the Revolution	320
After the Revolution	323
Rise of the tariff issue	326
The tariffs of 1842 and 1846	327
Transportation and manufactures	329
The early export trade	331
After the War of 1812	333
Early wage scales	334
Hoods — wool wearing apparel — duty on (Abstract 38922)	194
Hopewell, John, obituary (with portrait)	150

	Page
I.	
Imitation astrakhan — pile fabrics — duty on (Abstract 39888)	291
Imports and exports of wool and manufactures of, comparative statement of, for the twelve months ending December 31, 1914 and 1915	199
For the twelve months ending June 30, 1915 and 1916	413
Imports of wool and manufactures of wool entered for consumption, years ending June 30, 1914 and 1915	31, 98
Imports of wool into Boston, New York, and Philadelphia, 1896-1914 (with tables)	22, 23, 24, 25
Industrial mobilization, the wool manufacture and its part in the national defenee	156
Irish linen industry, the	386
J.	
Jamaica logwood embargo, the	70
K.	
Kitchin dyestuff bill, text of the	209
L.	
Labeling bills in Congress, the proposition of Chairman Adamson	87
Lanolin, adeps lanæ, duty on (T.D. 36613—G.A. 7952)	405
Lanolin, duty on (Abstracts 38552, 38679)	189, 191
Lansing, Hon. Robert, correspondence with, on the dyestuff situation,	71
Linen industry, an American, report of W. A. Graham Clark	384
Linen industry in Ireland, the	386
Linen industry of the United Kingdom, the	385
Linen manufacture in the United States, the	387
Lister, James, obituary	230
Liverpool wool sales, 1915	40
Logwood, the Jamaica embargo	70
London wool sales, 1915	34
M.	
Machine blankets, duty on (T.D. 36486 — G.A. 7919), (Abstract 39920)	283, 293
Machinery, active and idle, December 1, 1915	78
March 1, 1916	146
June 1, 1916	226
September 1, 1916	348
Manufacturers' purchases of wool in 1915	233
Manufactures, a history of, by Dr. Victor S. Clark	316

	Page
Manufactures and transportation	329
Manufactures in the United States, census for 1915	350
Manufactures, summary of, for the United States	355
Marks, Martin A., obituary	373
Marvin, Winthrop L., report of the Secretary, 1916	115
Marvin, Winthrop L., review of Dr. Victor S. Clark's "History of Manufactures"	316
Marvin, Winthrop L., slow progress in dyestuffs	137
Marvin, Winthrop L., the dyestuff problem still acute	67
Marvin, Winthrop L., the dyestuff situation, the Kitchin bill	207
Mauger & Avery, quarterly report of the Boston wool market on foreign wools	97, 205, 296, 420
Mobilization, industrial	156
Mohair backings — waste — duty on (Abstract 38863)	193
Mohair coat linings, duty on (Abstract 40031)	412
Mohair coat linings, duty on (T.D. 36510), United States Court of Customs Appeals	392
Mohair dress goods, duty on (Abstracts 38578, 40013)	190, 411
Mohair fancy — wool cloth — duty on (Abstract 38846)	193
Mohair linings, duty on (Abstract 40014)	412
Mohair noils — wool waste — duty on (Abstract 38691)	192
Mohair pile fabrics, duty on (Abstracts 38580, 39121)	190, 196
Mohair, production of, 1915	14
More sheep and more wool, the Philadelphia Wool and Textile Association	160

N.

National Association of Wool Manufacturers, fifty-first annual meeting of the	113
Election of officers for 1916	113
Report of the Secretary, Winthrop L. Marvin	115

O.

Obituary	81, 150, 228, 373
Theophilus Parsons	81
John Hopewell (with portrait)	150
Charles J. H. Woodbury (with portrait)	153
James Doak, Jr.	154
Winfield S. Schuster	155
George A. Shoemaker	155
Jeremiah Williams (with portrait)	228
Frank E. Simpson	229
James Lister	230
Martin A. Marks	373
Day Chadwick	374

	Page
Oelsner, G. H., <i>A Handbook of Weaves</i> , by	180
Officers of the Association for 1916	113
Opposition, a very solid, the American wool manufacture and the national elections	375

P.

Parsons, Theophilus, obituary	81
Perkins, F. Nathaniel, quarterly report of the Boston wool market on domestic wools	417
Philadelphia School of Industrial Art	300
Philadelphia Textile School, the, America's pioneer school for technical instruction in textile production, by Dr. E. W. France (illustrated)	299
The School of Industrial Art	300
President Search, pioneer	301
The dawn of textile education	303
No longer an experiment	305
Skill the secret of victory	307
A costly equipment needed	311
The duty and responsibility of manufacturers	313
Philadelphia Wool and Textile Association, movement for more sheep and more wool	160
Pile fabrics, appliqued, duty on (T.D. 36420 — G. A. 7909)	281
Prices of yarns and cloths	148
Prices, the course of wool, 1901-1915 (with chart)	17
Priestman, Howard, analysis of warp faults	121
Products, value of, United States manufactures	354
Pulled wool production, 1915	7

Q.

Quarterly report of the Boston wool market	95, 203, 294, 417
--	-------------------

R.

Raincoats, waterproof — component material of chief value (T.D. 36175)	183
Re-revised British terms, the new selling method of English and Scotch woolen mills	388
Resolutions of the American Chemical Society opposing the dyestuff tariff of 1916	343
River Plate wools, production of, 1896-1915	47
River Plate wools, shipments of, 1905-1915	46
Rugs — samples — duty on (Abstract 39535)	285
Russia, flax growing in	384

S.	Page
Sadler, Vice Chancellor of the University of Leeds, quoted on textile education	381
Salaries and wages in United States manufactures, 1915	354
Schuster, Winfield S., obituary	155
Search, President Theodore C., pioneer in textile education	301
Sheep, number of, in Australasia, 1910-1914	56
Sheep, number of, in South Africa	60
Sheep, number of, in the United States, 1915	5
Sheep, number of, in the world, 1915	61
Sheep, slaughter and movement of, in the United States, 1903-1914	15
Shipments of wool and woolen goods from India	256
Shoddy, the manufacture of wool, United States census of 1914	262
Shoddy, wool, United States census of 1915, summary statement	372
Shoemaker, George A., obituary	155
Simpson, Frank E., obituary	229
Slasher flannel—wool cloth—duty on (Abstract 39969)	409
Slippers, component material, duty on (T.D. 36582—G.A. 7939)	402
Slippers, duty on (Abstract 39797)	289
Slippers of cotton and wool, duty on (Abstract 39380)	198
Slow progress in dyestuffs, development of a native industry balked by the powers in Washington, by Winthrop L. Marvin	137
South African wool production, 1900-1913	60
Statement of ownership, management, etc.	181, 391

T.

Tariff for revenue only missing from the Democratic platform, 1916,	231
Tariff issue, rise of the, in the United States	326
Teazle cloth—pile fabrics—duty on (Abstract 39921)	293
Teazled cloth not pile fabrics, duty on (T.D. 36403—G.A. 7906)	279
Technical education, what the schools are doing	379
Terms, the re-revised British, for selling woolens	388
Textile Alliance and its work, the	167
Textile education, effects of, in Yorkshire	314
Textile education no longer an experiment	305
Textile education, the dawn of	303
Textile education, the duty and responsibility of manufacturers to	313
Textile industries of France in 1916, extracts from report of Consul A. M. Thackara	271
The trade in cotton goods	272
Activities in the woolen industry	273
Difficulties of the linen trade	274
The silk industry	274
Textile manufacture a difficult and exacting trade	308
Thackara, Consul A. M., report on the textile industries of France in 1916	271

	Page
Too much "overgovernment"	383
Top valuing and blending, the Bradford "Wool Record" quoted . . .	265
Transportation and manufactures	329
Treasury decisions in customs cases	182, 279, 392
Tucked shirt bosoms — wool wearing apparel (Abstract 39585)	287

U.

United States census of 1914 (1915)	256, 350
The manufacture of carpets and rugs	257
Manufacture of wool shoddy	262
Imports of manufactures ready for consumption, first seven months of 1909 and 1914	351
Manufactures in the United States	352
Summary for the United States	355
Wool manufactures	356
Woolen and worsted goods	357
Summary statement	360
Materials and products	361, 362
Machinery	363
Felt goods	363
Summary statements	366
Wool and fur hats	367
Wool-felt hats	368
Fur-felt hats	369
Carpets and rugs, comparative summary	371
Wool shoddy, comparative summary	372
Uruguay wools, imports of, into the United States, 1905-1915	48

V.

Value of products of United States manufactures	354
Value of the United States 1915 wool clip	8
Value of the United States wool product, 1906-1915	10

W.

Wages and salaries, United States manufactures	354
Wage scales, early	334
Waterproof raincoats — component material of chief value (T.D. 36175)	183
Wearing apparel, braided, duty on (Abstract 39988)	411
Wearing apparel in part of braid, duty on (Abstract 38985)	195
Wearing apparel in part of netting or tuckings, duty on (Abstract 39841)	290
Wearing apparel in part of ornaments, duty on (Abstract 39810) . . .	290
Wearing apparel in part of trimmings, duty on (Abstract 38951) . .	195

	Page
What of the embargo?	377
What the schools are doing: Increased interest in technical education,	379
Williams, Jeremiah, obituary (with portrait)	228
Wilton and tapestry Brussels rugs, duty on (T.D. 36229)	188
Woodbury, Charles J. H., obituary (with portrait)	153
Wool and manufactures of, imports of, entered for consumption, year ending June 30, 1915	31, 98
Wool and woolen goods, shipments of, from India	256
Wool, Australasian exports and sales	56
Wool, available supplies of, 1906-1915	11
Wool, average weight of Australian fleeces, 1901-1915	58
Wool, Boston receipts and shipments of, 1911-1915	18, 19, 20
Wool cloth, duty on (Abstracts 38585, 38808, 39521, 39972) 191, 193, 285, 411	
Wool consumption in England, 1898-1915	170
Wool dress goods, duty on (Abstract 39120)	195
Wool, fleece and pulled, quantity of, 1891-1915	9
Wool grease, duty on (Abstract 39278)	197
Wool imported into Boston, New York and Philadelphia by countries of production and immediate shipment, 1896-1915 (with tables),	22, 23, 24, 25
Wool, imports of Argentine, into the United States, 1905-1915	48
Wool, imports of Uruguayan, 1905-1915	48
Wool imports under the Alliance, large volume of purchases in 1915,	92
Wool laces — automobile laces — duty on (Abstract 39671)	287
Wool manufacture and its part in the national defence, the	156
Wool manufacture in Yorkshire in 1915	168
Wool, manufacturers' purchases of, in 1915	233
Wool manufactures, the 1915 census of, summary statements	356
Wool oleine — oils — duty on (Abstract 39475)	285
Wool, prices in United States, 1901-1915 (with chart)	16
Wool produced, imported, exported and retained for consumption, 1891-1914	12
Wool, production of River Plate	47
Wool production of South Africa, 1900-1913	60
Wool production of the world, 1915	65
Wool product of the United States, 1915	6
Wool product of the United States, value of, 1906-1915	10
Wool, scoured, quantity of, 1891-1915	10
Wool, shipments of River Plate	46
Wool shoddy, the United States census of the manufacture of, 1914	262
Wool slippers, duty on (Abstract 39284)	197
Wool, stock of, in Boston market, January, 1915 and 1916	14
Wool supply of the United States, 1888-1915	13
Wool, value of the Australasian clip, 1891-1914	59
Wool, value of the United States clip, 1915	8
Wool wearing apparel — appliqued articles — duty on (Abstract 39555),	286
Wool wearing apparel, duty on (Abstract 38807)	193

	Page
Wool wearing apparel in part of braid and ornaments, duty on (Abstracts 38718, 38912, 39584)	192, 194, 286
Wool wearing apparel in part of braid, duty on (Abstract 38636)	191
Wool wearing apparel, trimmings (Abstract 38615)	191
Wool year, features of the, in Australia, 1915	59
Woolen and worsted goods, United States census of 1915, summary statements	357
Woolen coats—embroidered wearing apparel—duty on (Abstract 38927)	194
Wools, native, sale of, forbidden by England	251
Worsted and woolen goods, United States census of 1915, summary statements	357
Woven fabrics, wool chief value, duty on (Abstract 39759)	289

Y.

Yarns and cloths, prices of	148
Yarns, exports of, from England, 1913 and 1915	173
Yarns, prices of, in England	173
Yorkshire wool manufacture in 1915, the "Observer" quoted	168
Wool consumption in England	170
Export of yarns from England, 1913 and 1915	172
Prices of yarns in England	173
Military requirements	175

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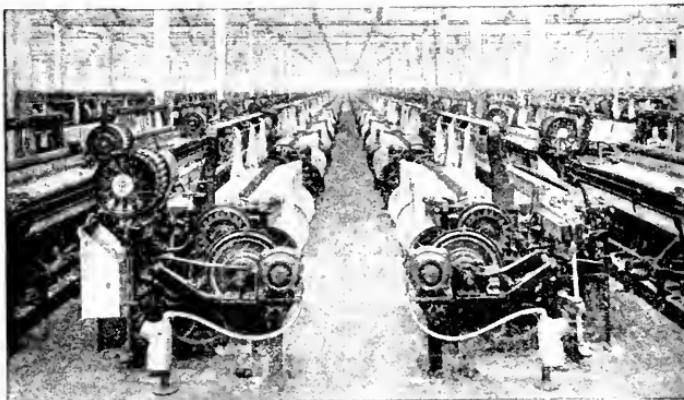
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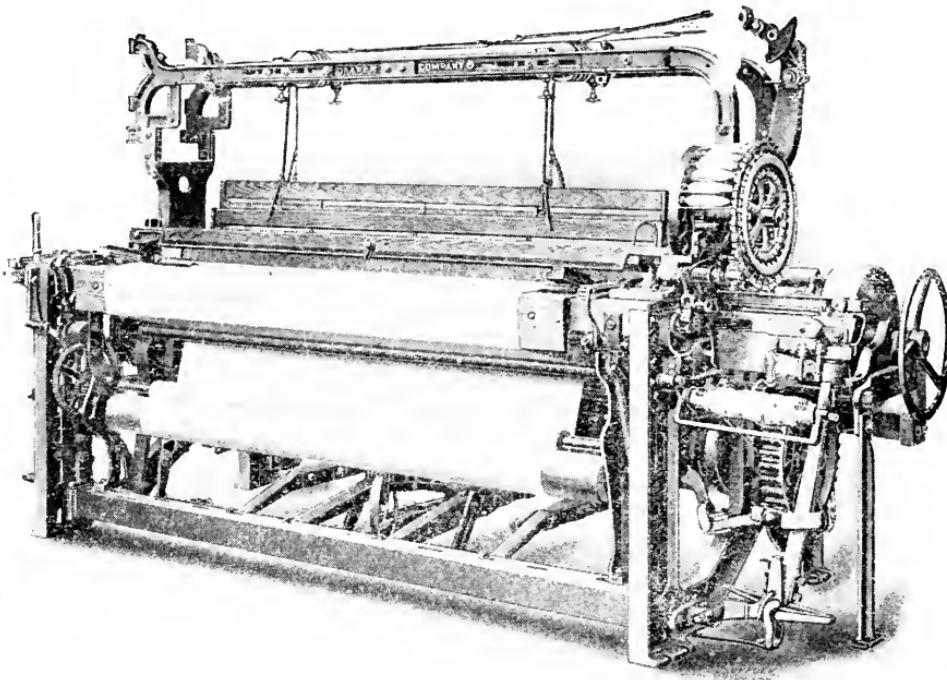
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